

APPENDIX 1

Cumulative Biobibliography
University of California, Santa Cruz

April 27, 2024

DARRELL DON EARL LONG

Distinguished Research Professor of Engineering
Kumar Malavalli Endowed Chair Professor in Storage Systems Research, Emeritus

Employment History

2024– Distinguished Visiting Scholar, Santa Clara University

2023– Distinguished Research Professor of Engineering, University of California, Santa Cruz
Distinguished Professor of Engineering, *Emeritus*, University of California, Santa Cruz

2019–23 Director, Center for Research Systems & Storage, University of California, Santa Cruz

2017–23 Distinguished Professor of Engineering, University of California, Santa Cruz

2005–23 Kumar Malavalli Endowed Chair Professor in Storage Systems Research

2004–10 Associate Dean for Research and Graduate Studies, Jack Baskin School of Engineering, University of California, Santa Cruz

2001–19 Director, Storage Systems Research Center, University of California, Santa Cruz

1999–17 Professor, Computer Science, University of California, Santa Cruz

1998–01 Associate Dean, Jack Baskin School of Engineering, University of California, Santa Cruz

1994–99 Associate Professor, Computer Science, University of California, Santa Cruz

1988–94 Assistant Professor, Computer Science, University of California, Santa Cruz

1986–88 Research Assistant, Computer Science & Engineering, University of California, San Diego

1985–87 Teaching Associate, Computer Science & Engineering, University of California, San Diego

1984–87 Lecturer in Mathematics, Department of Mathematical Sciences, San Diego State University

1981–84 Systems Programmer, University Computer Center, San Diego State University

Visitor History

2019 (Winter) Professeur Invité, Sorbonne Université

2016– Associate Member, European Organization for Nuclear Research (CERN)

2016 (Fall) Professeur Invité, Conservatoire National des Arts et Métiers

2014–2020 Visiting Scientist, Lawrence Livermore National Laboratory

2014 (Fall) Professeur Invité, Conservatoire National des Arts et Métiers
Professeur Invité, Université Paris–Descartes

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| 2013 (Winter) | Professeur Invité, Conservatoire National des Arts et Métiers Professeur Invité, Université Paris–Descartes Professeur Invité, Université Paris–Dauphine |
| 2012–2014 | Visiting Professor, United States Naval Postgraduate School |
| 2011 (Winter) | Professeur Invité, Conservatoire National des Arts et Métiers |
| 2010 (Winter) | Professeur Invité, Université Paris–Dauphine |
| 2009 (Winter) | Professeur Invité, Université Paris–Dauphine |
| 2008 (Winter) | Visiting Professor, University of Technology, Sydney |
| 2007 (Winter) | Visiting Scholar, University of California, San Diego Visiting Scholar, Center for Communications Research |
| 1995–2011 | Visiting Scientist, IBM Almaden Research Center |

Education

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| Ph.D. | 1988 | University of California, San Diego, Computer Science |
| M.S. | 1986 | University of California, San Diego, Computer Science |
| B.S. | 1984 | San Diego State University, Computer Science |

Honors and Awards

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| 2018 | IBM Faculty Award |
| 2016 | Best Paper Award, “RESAR: Reliable Storage at Exabyte Scale,” <i>Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems</i> |
| 2015 | Best Paper Award, “Classifying Data to Reduce Long Term Data Movement in Shingled Write Disks,” <i>Conference on Mass Storage Systems and Technologies</i> |
| 2013 | Best Short Paper Award, “A File By Any Other Name: Managing File Names with Metadata,” <i>International Systems and Storage Conference</i> |
| 2012 | Certificate of Appreciation for Outstanding Service, National Research Council IEEE Certificate of Appreciation |
| 2011 | Chancellor’s Achievement Award for Diversity |
| 2010 | Professor <i>ad Honorem</i> de la Universidad Católica del Uruguay |
| 2008 | Fellow, American Association for the Advancement of Science Certificate of Appreciation for Outstanding Service, National Research Council |
| 2006 | Fellow, Institute of Electrical and Electronics Engineers |
| 2005 | Kumar Malavalli Endowed Chair in Storage Systems Research IBM Research Invention Achievement Award (Third Plateau) Certificate of Appreciation for Outstanding Service, National Research Council |

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| 2003 | IBM Faculty Award |
| 2002 | IBM Research Invention Achievement Award (Second Plateau) IEEE Computer Society Certificate of Appreciation |
| 2001 | IBM Corporate Accomplishment Award for Adaptive Differential Back-up in the Tivoli Storage Manager |
| 1997 | IBM Research Invention Achievement Award (First Plateau) |
| 1996 | IBM Research Invention Achievement Award IEEE Computer Society Certificate of Appreciation |
| 1995 | Honorable mention, 1994–95 Excellence in Teaching Award Best Paper Award, “A Longitudinal Study of Internet Host Reliability,” <i>Symposium on Reliable Distributed Systems</i> |
| 1994 | Senior Member, Institute of Electrical and Electronics Engineers |
| 1993 | IEEE Computer Society Certificate of Appreciation |
| 1992 | Regents Junior Faculty Fellow |
| 1991 | Student Alumni Council Favorite Professor Award |
| 1989 | Regents Junior Faculty Fellow |
| 1988 | Regents Junior Faculty Fellow |

Grants

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| 2022–25 | <i>Trust Worthy Information Storage Technology Enhanced Devices (TWISTED)</i> , Defense Advanced Research Projects Agency (DARPA), Phase 2: \$2,500,000 (with P. Alvaro). Panel Reviewed. |
| 2020–21 | <i>Trust Worthy Information Storage Technology Enhanced Devices (TWISTED)</i> , Defense Advanced Research Projects Agency (DARPA), Phase 1: \$225,000. Panel Reviewed. |
| 2019–24 | <i>Phase II I/UCRC CRSS: Center for Research in Storage Systems</i> , National Science Foundation, \$500,000. Peer Reviewed. |
| 2018–21 | <i>A Multi-Layered Deniable Steganographic File System</i> , National Science Foundation, \$500,000. Peer Reviewed. |
| 2017–20 | <i>Integrated End-to-end Performance Prediction and Diagnosis for Extreme Scientific Workflows</i> , Department of Energy, Office of Science, \$300,000. Panel Reviewed. |
| 2015–17 | <i>Automatic Tuning and Contention Management for Lustre</i> , Intel Corporation, \$187,024. Panel Reviewed. |
| 2015–18 | <i>Automatic Storage and Network Contention Management for Large-scale High-Performance Computing Systems</i> , National Science Foundation, \$450,000. Peer Reviewed. |
| 2013–18 | <i>I/UCRC: A Single-Site I/UCRC Center for Research in Storage Systems</i> , National Science Foundation, \$468,850 (with E. Miller). Peer Reviewed. |
| 2012–13 | <i>Better File System Management Through Rich Metadata and Provenance</i> , NASA, \$40,000. Panel Reviewed. |

2012-15 RESAR: *Robust, Efficient, Scalable, Autonomous Reliable Storage for the Cloud*, National Science Foundation, \$374,700. **Peer Reviewed.**

2011-12 *Reducing Fragmentation in Deduplicated Storage Systems*, Hewlett-Packard Laboratories, \$50,000. **Panel Reviewed.**
Better File System Management Through Rich Metadata and Provenance, NASA, \$40,000. **Panel Reviewed.**
Improving Automated Metadata Extraction, Analysis and Reporting, United States Navy, \$150,000. **Panel Reviewed.**

2010-11 *Metadata Exploration in Digital Forensics*, United States Navy, \$196,156. **Panel Reviewed.**

2010-13 *Dynamic Non-Hierarchical File Systems for Exascale Storage*, Department of Energy, Office of Science, \$1,462,106. **Peer Reviewed.**

2010-13 *LockBox: Enabling Users to Keep Data Safe*, National Science Foundation, \$499,907 (with E. Miller). **Peer Reviewed.**

2009-14 *Collaborative Research: A Multi-University I/UCRC Center on Intelligent Storage*, National Science Foundation, \$275,000 (with E. Miller). **Peer Reviewed.**

2009-12 *Scalable Data Management Using Metadata and Provenance*, National Science Foundation, \$553,000 (with E. Miller, in collaboration with Margo Seltzer, Harvard University). **Peer Reviewed.**

2010-11 *Trading Storage for Computation*, NASA, \$61,000. **Panel Reviewed.**

2009-10 *Development of a Collaborative Project for Remotely Sensed Science and Technology*, NASA, \$300,000 (with Raphael Kudela, Ethan Miller, Roberto Manduci, Donald Potts, Eli Silver, Michael Loik and Chris Wilmers). **Panel Reviewed.**

2007 *ViewFS: Dynamic Name-Spaces for Metadata-Rich File Systems*, Lawrence Livermore National Laboratory, \$74,994 (with E. Miller). **Panel Reviewed.**

2006-09 *End-to-End Performance Management for Large Distributed Storage*, National Science Foundation, \$956,647 (with S. Brandt). **Peer Reviewed.**

2006-11 *Petascale Data Storage Institute*, Department of Energy, Office of Science, \$11,250,000 (in collaboration with Carnegie-Mellon University, University of Michigan, and the Department of Energy National Laboratories). **Peer Reviewed.**

2005-10 *Institute for Scalable Scientific Data Management*, Department of Energy, Los Alamos National Laboratory, \$4,750,000 (with S. Brandt and E. Miller). **Panel Reviewed.**

2005-06 *Scalable File Systems for High Performance Computing*, Department of Energy, Defense Programs Laboratories, \$250,000 (with S. Brandt, E. Miller, M. Abadi and C. Maltzahn). **Peer Reviewed.**

2003 *A Scalable On-Line Associative Deep Store*, University of California, Microelectronics Electronics Innovation and Computer Research Opportunities Program (MICRO), \$27,000. **Panel Reviewed.**

2003-06 *A Scalable On-Line Associative Deep Store*, National Science Foundation, \$294,012. **Peer Reviewed.**

2002-07 *Applications of Data Grouping for Effective Mobility*, National Science Foundation, \$338,130. **Peer Reviewed.**

2002-05 *Scalable File Systems for High Performance Computing*, Department of Energy, Defense Programs Laboratories, \$900,000 (with S. Brandt, E. Miller and K. Obraczka). **Panel Reviewed.**

2001–02 *Building a High-Performance Storage Systems from Commodity Components*, Department of Energy, Lawrence Livermore National Laboratory, \$65,000. **Panel Reviewed.**

2000–01 *Application of Probe-based Storage to High Performance Computing*, Department of Energy, Lawrence Livermore National Laboratory, \$39,239. **Panel Reviewed.**

2000–03 *Architectures and Algorithms to Exploit Probe-Based Storage*, National Science Foundation, \$345,191 (with S. Brandt and T. Madhyastha). **Peer Reviewed.**

2000–02 *An Experimental Study of Broadcasting Protocols for Video-on-Demand*, National Science Foundation, \$100,000. **Peer Reviewed.**

1999–01 *High Performance Integration of Advanced Tertiary Stores*, National Science Foundation, \$170,353. **Peer Reviewed.**

1998 *Real-Time Environmental Information Network and Analysis System (REINAS)*, Office of Naval Research, \$100,000. **Panel Reviewed.**

1998–99 *Tactical Environmental Data System/Real-time (TEDS/RT)*, Naval Research Laboratory, \$75,000. **Panel Reviewed**

1997–02 *National Partnership for Advanced Computing Infrastructure (NPACI)*, National Science Foundation, \$819,000 (with P. Mantey, A. Pang and S. Flatté). **Panel Reviewed.**

1997–99 *Predictive Power Conservation*, National Science Foundation, \$122,011 (with D. Helmbold). **Peer Reviewed.**

1997–99 *Improving Cache Performance by Predicting I/O System Actions*, National Science Foundation, \$136,647. **Peer Reviewed.**

1996–97 *Efficient Back-up and Restore Using Differential Files*, International Business Machines Corporation, \$79,864.

1995–98 *Instant Infrastructure and Distributed Resource Management*, Office of Naval Research, \$90,911. **Panel Reviewed.**

1995–96 *Efficient Resource Utilization Through Idle-Time Prediction*, University of California Seed Funds, \$15,000 (with D. Helmbold).

1993–94 *Global-scale Distributed Data Base Management*, Academic Senate Committee on Research, \$1,500.

1993–95 *Integration of Heterogeneous Real-time Data Repositories for Scientific Use*, Office of Naval Research, \$219,164. **Panel Reviewed.**

1992–93 *Estimating Host Reliability Using the Internet*, University of California, Microelectronics Electronics Innovation and Computer Research Opportunities Program (MICRO), \$5,481. **Panel Reviewed.**

1992 University of California, Regents Junior Faculty Fellowship, \$700.

1992–97 *Real-time Environmental Information Network and Analysis System (REINAS)*, Office of Naval Research, \$4,767,112 (with P. Mantey *et al.*). **Peer Reviewed.**

1992–93 University of California, Regents Junior Faculty Fellowship, \$750.

1992–93 *Estimating Reliability Using the Internet*, University of California Seed Funds, \$10,000.

1992–93 *Estimating Host Reliability Using the Internet*, Sun Microsystems, Incorporated, \$16,590. **Panel Reviewed.**

1991–92 *A Distributed Architecture for High-speed I/O*, Department of Energy, Lawrence Livermore National Laboratory, \$15,183. **Panel Reviewed.**

1991–93 *High-speed Distributed Storage Management*, National Science Foundation, \$68,955. **Peer Reviewed.**

1991–92 *A High-speed System to Support Multimedia*, Academic Senate Committee on Research, \$1,500.

1991–92 *Instructional Improvement Grant*, Academic Senate Committee on Teaching, \$200.

1990–91 *Concurrent Systems Laboratory*, University of California Seed Funds, \$12,500.

1989–90 *Fault-tolerant Operating System Techniques*, University of California, Microelectronics Electronics Innovation and Computer Research Opportunities Program, (MICRO) \$4,000. **Panel Reviewed.**

1989 University of California, Regents Junior Faculty Fellowship, \$500.

1988–89 *Modeling Fault-tolerant Computations*, Academic Senate Committee on Research, \$1,500.

1988 University of California, Regents Junior Faculty Fellowship, \$1,000.

Scholarly and Creative Work

Books

1. Ruth A. David, Steven R.J. Brueck, Stephen W. Drew, Alan H. Epstein, Robert A. Furman, Sharon Glotzer, Christopher C. Green, Diane E. Griffin, J. Jerome Holton, Michael R. Ladisch, Darrell Long, Frederick R. Lopez, Richard M. Osgood, Stewart D. Personick, Alton D. Romig, S. Shankar Sasry, James B. Smith, Camillo J. Taylor and Diane Wiley. *Avoiding Surprise in an Era of Global Technology Advances*. National Research Council, National Academies Press, 2005. **Peer Reviewed.**
2. John L. Carroll and Darrell D. E. Long. *Theory of Finite Automata*. Englewood Cliffs, New Jersey: Prentice-Hall, 1989. **Editorial Review.**

Chapters in Books

1. Ismail Ari, Ahmed Amer, Ethan L. Miller, Robert Gramacy, Scott A. Brandt and Darrell D. E. Long. “ACME: Adaptive Caching using Multiple Experts,” *Distributed Data & Structures 4* (Proceedings in Informatics 14), W. Litwin and G. Lèvy, Eds. Paris, France: Carleton Scientific, March 2002, pp. 143–158. **Peer Reviewed.**
2. Steven W. Carter, Darrell D. E. Long and Jehan-François Pâris. “Video-on-Demand Broadcasting Protocols,” *Multimedia Communications: Directions and Innovations*, J. D. Gibson, Ed. San Diego: Academic Press, 2000, pp. 179–189. **Peer Reviewed.**
3. Richard A. Golding and Darrell D. E. Long. “Simulation Modeling of Weak-Consistency Protocols,” *Network Systems Design*, E. Gelenbe, K. Bagchi and G. Zobrist, Eds. Gordon and Breach Science Publishers, 1999, pp. 161–186. **Invited, Peer Reviewed.**
4. Darrell D. E. Long and John L. Carroll. “Using Simulation to Evaluate Consistency Protocols for Replicated Data,” *Progress in Simulation II*, G. W. Zobrist and J. V. Leonard, Eds. Ablex Publishing, 1995. **Invited, Peer Reviewed.**

Peer Reviewed Journals

1. Liangkang Zhang, Yulai Xie, Minpeng Jin, Pan Zhou, Gongming Xu, Yafeng Wu, Dan Feng, Dan and Darrell Long. "A Novel Hybrid Model for Docker Container Workload Prediction," *IEEE Transactions on Network and Service Management, to appear.*
2. Yafeng Wu, Yulai Xie, Xuelong Liao, Pan Zhou, Dan Feng, Lin Wu, Xuan Li, Wildani, Avani and Darrell Long. "Paradise: Real-time, Generalized, and Distributed Provenance-Based Intrusion Detection," *ACM Transactions on Dependable and Secure Computing, to appear.*
3. Daniel Bittman, Peter Alvaro, Pankaj Mehra, Darrell D. E. Long and Ethan L. Miller. "Twizzler: A Data-centric OS for Non-volatile Memory," *ACM Transactions on Storage*, vol. 17, no. 2, June 2021.
4. Austen Barker, Yash Gupta, James Hughes, Ethan L. Miller and Darrell D. E. Long. "Rethinking the Adversary and Operational Characteristics of Deniable Storage," *Journal Journal of Surveillance, Security and Safety*, vol. 2, May 27, 2021.
5. Yulai Xie, Minpeng Jin, Zhuping Zou, Gongming Xu, Dan Feng, Wenmao Liu and Darrell Long. "Real-time Prediction of Docker Container Resource Load Based on A Hybrid Model of ARIMA and Triple Exponential Smoothing," *IEEE Transactions on Cloud Computing*, April 22, 2020.
6. Yulai Xie, Yafeng Wu, Dan Feng and Darrell Long. "P-Gaussian: Provenance-Based Gaussian Distribution for Detecting Intrusion Behavior Variants Using High Efficient and Real Time Memory Databases," *IEEE Transactions on Dependable and Secure Computing*, December 17, 2019.
7. Yulai Xie, Zhuping Zhou, Kai Huang, Gongming Xu, Dan Feng and Darrell Long. "A Docker Container Anomaly Monitoring System Based on Optimized Isolation Forest," *IEEE Transactions on Cloud Computing*, September, 2018.
8. Die Hu, Dan Feng, Yulai Xie, Gongming Xu, Xinrui Gu and Darrell Long. "Efficient Provenance Management via Clustering and Hybrid Storage in Big Data Environments," *IEEE Transactions on Big Data*, December 2020, vo. 6, no. 4, pp. 792–803.
9. Yulai Xie, Dan Feng, Yuchong Hu, Yan Li, Staunton Sample and Darrell Long. "Pagoda: A Hybrid Approach to Enable Efficient Real-time Provenance Based Intrusion Detection in Big Data Environments," *IEEE Transactions on Dependable and Secure Computing*, August 29, 2018.
10. Stephanie N. Jones, Ahmed Amer, Ethan L. Miller, Darrell D. E. Long, Rekha Pitchumani and Christina R. Strong. "Classifying Data to Reduce Long-Term Data Movement in Shingled Write Disks," *ACM Transactions on Storage*, vol. 12 no. 1, February 2016.
11. Yulai Xie, Dan Feng, Yan Li and Darrell D. E. Long. "Oasis: an Active Storage Framework for Object Storage Platform," *Future Generation Computer Systems*, vol. 56, March 2016, pp. 746–758.
12. Nicolás López, Matías Rodríguez, Catalina Fellegi, Darrell Long and Thomas Schwarz, S.J. "Even or Odd: A Simple Graphical Authentication System (*Par o Impar: un sistema gráfico simple de autenticación*)," *IEEE Latin America Transactions* (Revista IEEE América Latina), 13(3), pp. 804–809, March 2015.
13. Yulai Xie, Kiran-Kumar Muniswamy-Reddy, Dan Feng, Yan Li and Darrell D. E. Long. "Evaluation of a Hybrid Approach for Efficient Provenance Storage," *ACM Transactions on Storage*, vol. 9 no. 4, November 2013.
14. Witold Litwin, Darrell Long and Thomas Schwarz. "Combining Chunk Boundary and Chunk Signature Calculations for Deduplication (*Combinar la calculacion de limites de trozos y de firmas de trozos para deduplicacion*)," *IEEE Latin America Transactions* (Revista IEEE América Latina), 10(1), pp. 1305–1311, January 2012.

15. Ahmed Amer, JoAnne Holliday, Darrell D. E. Long, Ethan L. Miller, Jehan-François Pâris and Thomas Schwarz, S.J. "Data Management and Layout for Shingled Magnetic Recording," *IEEE Transactions on Magnetics*, vol. 47, no. 10, pp. 3691–3697, October 2011.
16. Lawrence L. You, Kristal T. Pollack, Darrell D. E. Long and K. Gopinath. "PRESIDIO: A Framework for Efficient Archival Data Storage," *ACM Transactions on Storage*, vol. 7, no. 2, art. 6, pp. 1–60, July 2011.
17. Bo Hong, Scott A. Brandt, Darrell D. E. Long, Ethan L. Miller and Ying Lin. "Using MEMS-Based Storage in Computer Systems – Device Modeling and Management," *ACM Transactions on Storage*, vol. 2, no. 2, May 2006, pp. 139–160.
18. Bo Hong, Feng Wang, Scott A. Brandt, Darrell D. E. Long and Thomas J. E. Schwarz, S.J. "Using MEMS-Based Storage in Computer Systems – MEMS Storage Architectures," *ACM Transactions on Storage*, vol. 2, no. 1, February 2006, pp. 1–21.
19. Randal Burns, Larry Stockmeyer and Darrell Long. "In-Place Reconstruction of Version Differences," *IEEE Transactions on Knowledge and Data Engineering*, vol. 15, no. 4, July 2003, pp. 973–984.
20. Miklós Ajtai, Randal Burns, Ronald Fagin, Darrell Long and Larry Stockmeyer. "Compactly Encoding Unstructured Inputs with Differential Compression," *Journal of the ACM*, vol. 49, no. 3, May 2002, pp. 318–367.
21. Randal C. Burns, Robert M. Rees and Darrell D. E. Long. "Efficient Data Distribution in a Web Server Farm," *IEEE Internet Computing*, vol. 5, no. 4, July 2001, pp. 56–65.
22. Randal C. Burns, Robert M. Rees, Larry Stockmeyer, and Darrell D. E. Long. "Scalable Session Locking for a Distributed File System," *Cluster Computing Journal*, Kluwer Academic Publishers, vol. 4, no. 4, October 2001, pp. 295–306.
23. David P. Helmbold, Darrell D. E. Long, Tracey L. Sconyers and Bruce Sherrod. "Adaptive Disk Spin-Down for Mobile Computers," *ACM/Baltzer Mobile Networks and Applications Journal*, vol. 5, no. 4 (2000), pp. 285–297.
24. Benjamin C. Reed, Darrell D. E. Long, Edward G. Chron and Randal C. Burns. "Authenticating Network Attached Storage," *IEEE Micro*, vol. 20, no. 1, January 2000, pp. 49–57.
25. Steven W. Carter and Darrell D. E. Long. "Improving Bandwidth Efficiency of Video-on-Demand Servers," *Computer Networks*, Elsevier, vol. 31, nos. 1–2, January 1999, pp. 99–111.
26. Eric C. Rosen, Theodore R. Haining, Darrell D. E. Long, Patrick E. Mantey. "REINAS: A Real-time System for Managing Environmental Data," *Journal of Software Engineering and Knowledge Engineering*, vol. 8, no. 1 (1998), pp. 35–53.
27. Darrell D. E. Long, Bruce R. Montague and Luis-Felipe Cabrera. "Swift/RAID: A Distributed RAID System," *Computing Systems*, vol. 7, no. 3 (1994), pp. 333–359.
28. Ivan Fellner, Ivan Racko, Milos Racek, Karol Fabian and Darrell D. E. Long. "A Comparison of Two Implementations of the Token Ring Priority Function," *International Journal in Computer Simulation*, vol. 5, no. 1 (1994), pp. 13–28.
29. Luis-Felipe Cabrera and Darrell D. E. Long. "Swift: Using Distributed Disk Striping to Provide High I/O Data Rates," *Computing Systems*, vol. 4, no. 4 (1991), pp. 405–436.
30. Richard A. Golding and Darrell D. E. Long. "Accessing Replicated Data in a Large-Scale Distributed System," *International Journal in Computer Simulation*, vol. 1, no. 4 (1991), pp. 347–372.
31. Jehan-François Pâris and Darrell D. E. Long. "The Performance of Available Copy Protocols for the Management of Replicated Data," *Performance Evaluation*, vol. 11, no. 1, April 1990, pp. 9–30.
32. Darrell D. E. Long, John L. Carroll and Kris Stewart. "Estimating the Reliability of Regeneration-Based Replica Control Protocols," *IEEE Transactions on Computers*, vol. 38, no. 12, (December 1989), pp. 1691–1702.

Peer Reviewed Conference Papers

1. Eugene Chou, Leo Conrad-Shah, Austen Barker, Andrew Quinn, Ethan L. Miller and Darrell D. E. Long. "Lethe: Secure Deletion by Addition," *Proceedings of the Workshop on Challenges and Opportunities of Efficient and Performant Storage Systems* (CHEOPS), Rome, ACM: Mary 8, 2023.
2. Kyle Fredrickson, Austen Barker and Darrell Long. "A Multiple Snapshot Attack on Deniable Storage Systems," *Proceedings of the Twenty-ninth International Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS 2021), IEEE, November 3–5, 2021.
3. Oceane Bel, Kenneth Chang, Nathan R. Tallent, Dirk Duellmann, Ethan L. Miller, Faisal Nawab and Darrell D. E. Long. "Geomancy: Automated Performance Enhancement through Data Layout Optimization," *Proceedings of the Conference on Mass Storage Systems and Technologies* (MSST), Santa Clara University: IEEE, October 26–30, 2020.
4. James Byron, Ethan L. Miller and Darrell D. E. Long. "Measuring the Cost of Reliability in Archival Systems," *Proceedings of the Conference on Mass Storage Systems and Technologies* (MSST), Santa Clara University: IEEE, October 26–30, 2020.
5. Austen Barker, Yash Gupta, Sabrina Au, Eugene Chou, Ethan L. Miller and Darrell D. E. Long. "Artifice: Data in Disguise," *Proceedings of the Conference on Mass Storage Systems and Technologies* (MSST), Santa Clara University: IEEE, October 26–30, 2020.
6. Daniel Bittman, Peter Alvaro, Darrell Long and Ethan Miller. "Twizzler: a Data-Centric OS for Non-Volatile Memory," *Proceedings of the 2020 USENIX Annual Technical Conference*, Boston: Usenix Association, July 15–17, 2020.
7. Daniel Bittman, Peter Alvaro, Darrell D. E. Long and Ethan L. Miller. "A Tale of Two Abstractions: The Case for Object Space," *Proceedings of the Eleventh Hot Topics in Storage and File Systems* (Hot Storage 2019), Renton: Usenix Association, July 8–9, 2019.
8. Daniel Bittman, Darrell D. E. Long, Peter Alvaro, and Ethan L. Miller. "Optimizing Systems for Byte-Addressable NVM by Reducing Bit Flipping," *Proceedings of the Conference on File and Storage Technologies* (FAST), San Jose: Usenix Association, February 25–28, 2019.
9. Sinjoni Mukhopadhyay, Joel Frank, Daniel Bittman, Darrell Long and Ethan Miller. "Efficient Reconstruction Techniques for Disaster Recovery in Secret-Split Datastores," *Proceedings of the Twenty-sixth International Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS 2018), Milwaukee: IEEE, September 25–28, 2018.
10. James Byron, Ethan Miller and Darrell Long. "Using Simulation to Design Scalable and Cost-Efficient Archival Storage Systems," *Proceedings of the Twenty-sixth International Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS 2018), Milwaukee: IEEE, September 25–28, 2018.
11. Daniel Bittman, Matthew Gray, Justin Raizes, Sinjoni Mukhopadhyay, Matthew Bryson, Peter Alvaro, Darrell Long and Ethan Miller. "Designing Data Structures to Minimize Bit Flips on NVM," *Proceedings of the Seventh IEEE Non-Volatile Memory Systems and Applications Symposium* (NVMSA '18) Hakodate, Japan: IEEE, August 28–31, 2018.
12. Oceane Bel, Kenneth Chang, Daniel Bittman, Ethan L. Miller, Darrell D. E. Long and Hiroshi Isozaki. "Inkpack: A Secure, Data-Exposure Resistant Storage System," *Proceedings of the Eleventh Annual International Systems and Storage Conference* (SYSTOR), Haifa, Israel: ACM, June 4–8, 2018.

13. Yan Li, Kenneth Chang, Oceane Bel, Ethan L. Miller and Darrell D. E. Long. "CAPES: Unsupervised Storage Performance Tuning Using Neural Network-Based Deep Reinforcement Learning," *Proceedings of the International Conference for High Performance Computing, Networking, Storage and Analysis* (SC '17), November 13–16, 2017.
14. Carlos A. Rincon, Jehan-François Pâris, Ricardo Vilalta, Albert M. K. Cheng and Darrell D. E. Long. "Disk Failure Prediction in Heterogeneous Environments," *Proceedings of the International Symposium on Performance Evaluation of Computer and Telecommunication Systems*, Seattle: IEEE, July 9–12, 2017.
15. Thomas Schwarz, Ahmed Amer, Thomas Kroeger, Ethan Miller, Darrell Long and Jehan-François Pâris. "RESAR: Reliable Storage at Exabyte Scale," *Proceedings of the Twenty-fourth International Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS 2016), London: IEEE, September 21–23, 2016.
16. Yan Li, Ethan Miller, Darrell Long and Yash Gupta. "Pilot: A Framework that Understands How to Do Performance Benchmarks the Right Way," *Proceedings of the Twenty-fourth International Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS 2016), London: IEEE, September 21–23, 2016.
17. Jehan-François Pâris and Darrell D. E. Long. "Pirogue: A lighter dynamic version of the Raft distributed consensus algorithm," *Proceedings of the Thirty-fourth International Performance of Computers and Communication Conference* (IPCCC 2015), Nanjing, China: IEEE, December 14–16, 2015.
18. Thomas Schwarz, Darrell D. E. Long and Jehan-François Pâris. "Triple failure tolerant storage systems using only exclusive-or parity calculations," *Proceedings of the Twenty-first IEEE Pacific Rim International Symposium on Dependable Computing* (PRDC 2015), Zhangjiajie, China: IEEE, November 18–20, 2015.
19. Jehan-François Pâris and Darrell Long. "Reducing the Energy Footprint of a Distributed Consensus Algorithm," *Proceedings of the European Dependable Computing Conference* (EDCC 2015), Paris: IEEE, September 7–11, 2015.
20. Stephanie N. Jones, Ahmed Amer, Ethan L. Miller, Darrell D. E. Long, Rekha Pitchumani and Christina R. Strong. "Classifying Data to Reduce Long Term Data Movement in Shingled Write Disks," *Proceedings of the Conference on Mass Storage Systems and Technologies* (MSST), Santa Clara University: IEEE, May 30–June 5, 2015.
21. Joel C. Frank, Shayna M. Frank, Lincoln A. Thurlow, Thomas M. Kroeger, Ethan L. Miller and Darrell D. E. Long. "Percival: A Searchable Secret Split Datastore," *Proceedings of the Conference on Mass Storage Systems and Technologies* (MSST), Santa Clara University: IEEE, May 30–June 5, 2015.
22. Yan Li, Xiaoyuan Lu, Ethan L. Miller and Darrell D. E. Long. "ASCAR: Automating Contention Management for High-Performance Storage Systems," *Proceedings of the Conference on Mass Storage Systems and Technologies* (MSST), Santa Clara University: IEEE, May 30–June 5, 2015.
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2. Oceane Bel, Kenneth Chang, Nathan R. Tallent, Dirk Duellmann, Ethan L. Miller, Faisal Nawab and Darrell D. E. Long. "Geomancy: Automated Performance Enhancement through Data Layout Optimization," *Proceedings of the International Symposium on Performance Analysis of Systems and Software* (ISPASS), IEEE: Virtual, August 23–26, 2020.
3. Austen Barker, Staunton Sample, Yash Gupta, Anastasia McTaggart, Ethan L. Miller and Darrell D. E. Long. "Artifice: A Deniable Steganographic File System," *Proceedings of Ninth Usenix Workshop on Free and Open Communications on the Internet*, (FOCI 2019), Usenix Association: Santa Clara, August 13, 2019.
4. Jehan-François Pâris, Thomas Schwarz, S. J. and Darrell D. E. Long. "Improving Disk Array Reliability Through Faster Repairs," *Proceedings of the Thirty-fifth International Performance of Computers and Communication Conference* (IPCCC 2016), Las Vegas, NV: IEEE, December 2016.
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6. Ranjana Rajendran, Ethan L. Miller and Darrell D. E. Long. "Horus: Fine-Grained Encryption-Based Security for High Performance Petascale Storage," *Proceedings of the Sixth Petascale Data Storage Workshop* (PDSW), Seattle: ACM, November 13, 2011.
7. Stephanie N. Jones, Christina R. Strong, Aleatha Parker-Wood, Alexandra Holloway and Darrell D. E. Long. "Easing the Burdens of HPC File Management," *Proceedings of the Fifth Petascale Data Storage Workshop* (PDSW), Seattle: ACM, November 13, 2011.
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2. Randal Burns, Larry Stockmeyer and Darrell D.E. Long. "Experimentally Evaluating In-Place Delta Reconstruction," *Proceedings of the NASA and IEEE Mass Storage Conference*, College Park: IEEE, April 2002, pp. 137–151.
3. Darrell D. E. Long. "A Technique for Managing Mirrored Disks," *Proceedings of the International Performance Conference on Computers and Communication* (IPCCC), Phoenix: IEEE, April 2001, pp. 272–277.
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Miscellanea

1. Daniel Bittman, Peter Alvaro, Darrell D. E. Long and Ethan Miller. "The Flipside: A Bit Flip Saved Is Power and Lifetime Earned," *;login: The Usenix Magazine*, 2019, vol. 44, no. 2.
2. Ahmed Amer, Darrell D. E. Long, Ethan L. Miller, Jehan-François Pâris and Thomas Schwarz. "Data Management and Layout for Shingled Magnetic Recording," *IEEE International Magnetics Conference (InterMag 2011)*, Taipei, Taiwan: IEEE, April 25–29, 2011.
3. K. Gopinath, Jon Elerath and Darrell Long. "Reliability Modelling of Disk Subsystems with Probabilistic Model Checking," *Dagstuhl Seminar on Quantitative and Qualitative Analysis of Network Protocols*, January 2010.
4. António M. Baptista, Michael Wilkin, Phillip Pearson, Paul Turner, Cole McCandlish, Phillip Barrett, Salil Das, Wendy Sommerfield, Ming Qi, Neetu Nangia, David Jay, Darrell Long, Calton Pu, John Hunt, Zhaoqing Yang, Edward Myers, Jeff Darland and Anna Farrenkopf, "Towards a Multipurpose Forecast Systems for the Columbia River Estuary," *Proceedings of the Ocean Community Conference*, Baltimore: Marine Technology Society, November 1998.
5. Benjamin Reed and Darrell D. E. Long, "Analysis of Caching Algorithms for Distributed File Systems," *Operating Systems Review*, July 1996, vol. 30, no. 3, pp. 12–21.
6. Daniel M. Fernandez, Patrick E. Mantey, Darrell D. E. Long, Eric Rosen and Craig M. Wittenbrink. "REINAS: Real-Time Environmental Information Network," *Sea Technology*, May 1996, vol. 37, no. 5, pp. 47–53.
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Patents

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2. Luis Felipe Cabrera and Darrell D. E. Long. "Method and Apparatus for Establishing and Maintaining the Status of Membership Sets used in Mirrored Read and Write Input/Output without Logging," U.S. Patent no. 5,917,998, June 1999.
3. Randal C. Burns, Edward G. Chron, Darrell D. E. Long and Benjamin C. Reed. "Secure Array of Remotely Encrypted Storage Devices," U.S. Patent no. 5,931,947, August 1999.
4. Randal C. Burns and Darrell D. E. Long. "A Method for Generating and Reconstructing In-place Delta Files," U.S. Patent no. 6,018,747, January 2000.
5. Edward G. Chron, Darrell D. E. Long, Randal C. Burns and Benjamin Reed. "Decentralized Remotely Encrypted File System," U.S. Patent no. 6,405,315, June 2002.
6. Randal C. Burns, Robert M. Rees and Darrell D. E. Long. "Data Placement and Allocation using Virtual Contiguity," U.S. Patent no. 6,651,147, November 2003.
7. Randal C. Burns, Robert M. Rees, Darrell D. E. Long and Atul Goel. "Lease-Based Safety Protocol for Distributed System with Multiple Networks," U.S. Patent no. 6,775,703, August 2004.
8. Randal C. Burns and Darrell D. E. Long. "System and Method for Managing Authentication and Coherency in a Storage Area Network," U.S. Patent no. 6,792,424, September 2004.
9. Randal C. Burns, Darrell D. E. Long and Robert M. Rees. "System and Method for Restoring a File System from Backups in the Presence of Deletions," U.S. Patent no. 6,938,056, August 2005.

10. Rajagopal Ananthanarayanan, Ralph Becker-Szendy, Randal C. Burns, Darrell D. E. Long, Jujjuri Venkateswararao, David M. Wolf and Jason C. Young. "Method, System and Computer Program Product for Implementing Copy-on-Write of a File," U.S. Patent no. 7,085,909, August 2006.
11. Jason C. Young, Rajagopal Ananthanarayanan, Randal C. Burns, Darrell D. E. Long, Robert M. Rees, Ralph A. Becker-Szendy, James J. Seeger and David M. Wolf. "Managing File System Versions," U.S. Patent no. 7,139,781, November 2006.

Professional Activities

Invited Lectures

2019 "Geomancy: Automated Performance Enhancement through Data Placement Optimization," IBM Research, Zürich, Organisation Européenne pour la Recherche Nucléaire (CERN), Sorbonne Université.
 "Twizzler: An OS for Next-generation Memory Hierarchies," IBM Research, Zürich, Organisation Européenne pour la Recherche Nucléaire (CERN), Sorbonne Université.

2016 "RESAR: Reliable Storage at Exabyte Scale," IBM Research, Zürich, Université Paris–Descartes.
 "Pilot: A Framework that Understands How to Do Performance Benchmarks the Right Way," Organisation Européenne pour la Recherche Nucléaire (CERN).

2014 "Horus: Fine-Grained Security for Large-Scale Storage," University of Houston.
 "SNQoS: Scalable Shared-Nothing QoS for High-Performance Storage Systems," San Diego State University, University of New Orleans.
 "Science and Cyber Security," Lockheed-Martin "Skunk Works" (Advanced Development Programs).

2013 "Horus: Fine-Grained Security for Large-Scale Storage," Laboratoire d'Informatique de Paris 6 (LIP6), Université Pierre et Marie Curie, Conservatoire National des Arts et Métiers, Université de Technologie en Sciences des Organisations et de la Décision de Paris–Dauphine.
 "RESAR Storage: a System for Two-Failure Tolerant, Self-Adjusting Million Disk Storage Cluster," Conservatoire National des Arts et Métiers, Université Paris–Descartes, Université Pierre et Marie Curie (Laboratoire d'Informatique de Paris 6).

2012 "RESAR Storage: a System for Two-Failure Tolerant, Self-Adjusting Million Disk Storage Cluster," University of Oregon.

2011 "Science of Cyber Security," Sandia National Laboratories.

2010 "Scalable, Parallel Deduplication for Large Scale Data Systems," Pacific Northwest National Laboratory.
 "Extreme Binning: Scalable, Parallel Deduplication for Chunk-based File Backup," Université de Technologie en Sciences des Organisations et de la Décision de Paris–Dauphine.

2009 "Maximizing Efficiency by Trading Storage for Computation," IBM-Amrita Cloud Symposium, Amrita University, Coimbatore, India.
 "High-Performance Petascale File Systems," Université de Technologie en Sciences des Organisations et de la Décision de Paris–Dauphine.
 "High-Performance Petascale File Systems," Commissariat à l'Energie Atomique, Direction des Applications Militaires et Direction des Ames Nucléaires.

2007 "Ceph: A Scalable, High-Performance Distributed File System," University of Technology, Sydney, Australia.
 "Ceph: A Scalable, High-Performance Distributed File System," University of California, San Diego.

2006 "Storage Management – Unchecked Challenges, Untapped Opportunities," Workshop on Distributed Data and Structures, Santa Clara University.

2005 "Storage Management – Unchecked Challenges, Untapped Opportunities," Storage Networking Summit, Bangalore, India.
 "Ceph: A Distributed Object-based Storage System," Indian Institute of Science, Bangalore, India.
 "Deep Store: Minimum Redundancy Archival Storage," Amrita University, Coimbatore, India.

2004 "Peta-scale Data Storage: Challenges and (a few) Solutions," Yahoo!
 "Deep Store," University of Arizona.
 "Deep Store," Vrije Universiteit.

2003 "Deep Store: Associative Archival Storage Architecture," Network Appliance.

2002 "Group-based Management of Distributed File Caches," Hewlett-Packard Laboratories.
 "Group-based Management of Distributed File Caches," Technische Universität München.

2000 "Perspective on Academic Storage Research," IBM Research.
 "Produce-Consumer Locking" and "Analytical Lease Modeling," San Francisco State University.
 "The Storage Tank System," Université de technologie en sciences des organisations et de la décision de Paris–Dauphine

1997 "Differential Storage Management" and "Efficient Video-on-Demand Services," Université de technologie en sciences des organisations et de la décision de Paris–Dauphine
 "Differential Storage Management," Queen Mary College, University of London.
 "A Dynamic Disk Spin-down Technique for Mobile Computing," University of California, Riverside.
 "Replication with Minimal Metadata," IBM Corporation.

1996 "Predicting File System Actions from Prior Events," University of California, San Diego.

1995 "Fault-Tolerance in Distributed Systems," WilTel Advanced Technology Group.

1994 "The REINAS System," University of California, Riverside.

1992 "A Study of the Reliability of Internet Sites," San Diego State University.

1991 "Swift – A Distributed Storage System for Multimedia," Matsushita Information Technology Laboratory.
 "A Study of the Reliability of Internet Sites," INRIA (Institut National de Recherche en Informatique et Automatique).
 "A Study of the Reliability of Internet Sites," University of California, San Diego.
 "Swift – A Distributed Storage System for Multimedia," Hewlett-Packard Laboratories.
 "Reliable Distributed Storage Systems," Sun Microsystems.
 "A Study of the Reliability of Internet Sites," Bay Area Systems Seminar.

1990 "Swift: A Storage Architecture for Very Large Objects," Hewlett-Packard Laboratories.
 "Estimating the Reliability of Regeneration-Based Replica Control Protocols," IBM Almaden Research and SRI International.

1989 "Availability and Reliability of Regeneration Protocols for Replicated Objects," Hewlett-Packard Laboratories.

- 1988 "Optimistic Protocols for Replicated Data Management," Vanderbilt University and Stanford University.
- 1987 "The Management of Replication in a Distributed Computing System," Georgia Institute of Technology.
"Optimistic Algorithms for Replicated Data Management," Oxford University.
"The Management of Replication: An Overview of the Gemini Project," United States Naval Research Laboratory.
- 1986 "On Improving the Availability of Replicated Files," University of California, Berkeley.

Conference Organization

- 2024 General Chair: *Conference on Mass Storage Systems and Technologies* (MSST). Program Committee: *Usenix Technical Conference* (ATC).
- 2023 Program Committee: *Fourth Joint International Conference on Deep Learning, Big Data and Blockchain* (DBB).
- 2022 Steering Committee: *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS).
- 2021 Steering Committee: *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS).
- 2020 Program Chair: *Conference on Mass Storage Systems and Technologies* (MSST).
Program Committee: *Symposium on File and Storage Systems Technology* (FAST), *International Conference on Cloud Computing and Services Science* (CLOSER 2020).
Steering Committee: *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS).
- 2019 Program Committee: *IEEE International Conference on Machine Learning and Applications* (ICMLA 2019).
Reviewer: *International Conference on Cloud and Big Data Computing* (CBDC 2019).
Steering Committee: *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS).
- 2018 Program Committee: *IEEE Cluster Conference* (Cluster 2018).
Steering Committee: *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS).
- 2017 Steering Committee: *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS).
- 2016 Program Committee: *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS).
Steering Committee: *Petascale Data Storage Workshop* (PDSW), *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS).
- 2015 Program Committee: *Symposium on File and Storage Systems Technology* (FAST).
Steering Committee: *Petascale Data Storage Workshop* (PDSW), *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS).

2014 Program Committee: *International Conference on Advanced Communications and Computation* (IN-FOCOMP), *Conference on Mass Storage Systems and Technologies* (MSST).
 General Chair: *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS).
 Steering Committee: *Petascale Data Storage Workshop* (PDSW), *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS), *Symposium on File and Storage Systems Technology* (FAST).
 Reviewer: *International Symposium on Performance Analysis of Systems and Software* (ISPASS).

2013 Reviewer: *Electronics and Telecommunications Research Institute Journal* (ETRI), *IEEE Transactions on Neural Networks and Learning Systems*, *International Workshop on Combinatorial Algorithms*.
 Program Committee: *Annual International Systems and Storage Conference* (SYSTOR), *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS), *Conference on Mass Storage Systems and Technologies* (MSST).
 Steering Committee: *Petascale Data Storage Workshop* (PDSW), *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS), *Symposium on File and Storage Systems Technology* (FAST).
 Advisory Committee: *International Conference on Electronics, Computing and Communication Technologies* (CONECCT).

2012 Steering Committee: *Petascale Data Storage Workshop* (PDSW), *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS), *Symposium on File and Storage Systems Technology* (FAST).
 Program Committee: *Symposium on File and Storage Systems Technology* (FAST).

2011 Steering Committee: *Petascale Data Storage Workshop* (PDSW), *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS), *Symposium on File and Storage Systems Technology* (FAST).
 Program Committee: *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS).

2010 Program Chair: *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS).
 Steering Committee: *Petascale Data Storage Workshop* (PDSW), *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS), *Symposium on File and Storage Systems Technology* (FAST).

2009 Program Committee: *International Workshop on Software Support for Portable Storage* (IWSSPS), *Augural International Conference on Virtualization and Cloud Computing*, *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS), *Petascale Data Storage Workshop* (PDSW).
 Program Chair: *Web Information Systems Engineering* (WISE).
 General Chair: *Symposium on Applications and the Internet* (SAINT).
 Steering Committee: *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS), *Symposium on File and Storage Systems Technology* (FAST).

2008 Program Committee: *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS), *Petascale Data Storage Workshop* (PDSW).
 Steering Committee: *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS), *Symposium on File and Storage Systems Technology* (FAST).

2007 Program Committee: *Symposium on File and Storage Systems Technology* (FAST), *Petascale Data Storage Workshop* (PDSW).
 Steering Committee: *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS), *Symposium on File and Storage Systems Technology* (FAST).

2006 Program Committee: *International Conference on Dependable Systems and Networks* (DSN), *Dependable Computing and Communications Symposium* (DCCS), *Symposium on Applications and the Internet* (SAINT).
 Steering Committee: *Symposium on File and Storage Systems Technology* (FAST), *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS).

2005 Program Committee: *Symposium on File and Storage Systems Technology* (FAST), *Workshop on Storage Security and Survivability* (StorageSS), *First International Workshop on Software Support for Portable Storage* (IWSSPS).

2004 Program Committee: *Symposium on Applications and the Internet* (SAINT); *SIGMetrics*.
 Steering Committee: *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS).

2003 Program Committee: *Usenix Technical Conference*, *Symposium on File and Storage Systems Technology* (FAST), *Very Large Data Bases* (VLDB), *International Conference on Distributed Computing Systems* (ICDCS), *IEEE International Performance, Computing, and Communications Conference* (IPCCC), *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS).
 Steering Committee: *Symposium on File and Storage Systems Technology* (FAST), *Workshop on Mobile Computing Systems and Applications* (WMCSA), *IEEE International Performance, Computing, and Communications Conference* (IPCCC), *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS).

2002 Program Committee: *IEEE International Performance, Computing, and Communications Conference* (IPCCC), *Workshop on Caching, Coherency and Consistency* (WC3), *Workshop on Distributed Data and Structures* (WDAS), *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS).
 Steering Committee: *Symposium on File and Storage Systems Technology* (FAST), *Workshop on Mobile Computing Systems and Applications* (WMCSA), *IEEE International Performance, Computing, and Communications Conference* (IPCCC).

2001 Founding Program Chair: *Symposium on File and Storage Systems Technology* (FAST).
 Program Chair: *IEEE International Performance, Computing, and Communications Conference* (IPCCC).
 Program Committee: *International Conference on Distributed Computing Systems* (ICDCS).

2000 Program Committee: *Communication Networks and Distributed Systems Modeling and Simulation Conference* (CNDS), *Research Issues in Data Engineering* (RIDE), *Hot Interconnects*, *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS).
 Steering Committee: *Workshop on Mobile Computing Systems and Applications* (WMCSA), *Symposium on Applications and the Internet* (SAINT).

1999 General Chair: *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS).
 Program Committee: *Communication Networks and Distributed Systems Modeling and Simulation Conference* (CNDS), *IEEE International Performance, Computing, and Communications Conference* (IPCCC).

Steering Committee: *Symposium on Applications and the Internet* (SAINT).

1998 Program Committee: *Symposium on Reliable Distributed Systems* (SRDS), *Fault Tolerant Computing Systems* (FTCS), *Usenix Technical Conference*.
 Steering Committee: *IEEE Workshop on Mobile Computing Systems and Applications* (WMCSA).
 Advisory Committee: *Hawaii International Conference on System Sciences* (HICSS).

1997 General Chair: *IEEE Computer Society CompCon*.
 Program Committee: *International Conference on Parallel and Distributed Systems* (ICPDS), *Communications Networks and Distributed Systems Modeling and Simulation Conference* (CNDS), *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS).
 Steering Committee: *Hot Topics in Operating Systems VI* (HotOS).

1996 General Chair: *IEEE Computer Society/National Science Foundation Workshop on Workspaces in the Information Age*.

1996 Program Chair: *IEEE Computer Society CompCon*.
 Program Committee: *International Conference on Distributed Computing Systems* (ICDCS), *Annual Simulation Symposium*, *International Workshop on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS).
 Steering Committee: *Hot Topics in Operating Systems V* (HotOS).

1995 Program Committee: *Symposium on Reliable Distributed Systems* (SRDS), *Usenix Technical Conference*, *Services in Distributed and Networked Environments* (SDNE), *International Conference on Distributed Computing Systems* (ICDCS), *Annual Simulation Symposium*, *International Workshop on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS).

1994 Founding General Chair: *Workshop on Mobile Computing Systems and Applications* (WMCSA).

1994 Program Committee: *Applied Data Bases*; *First International Workshop on Services in Distributed and Networked Environments*, *International Conference on Distributed Computing Systems* (ICDCS), *Annual Simulation Symposium*, *International Workshop on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS).

1993 Program Committee: *International Conference on Parallel and Distributed Systems* (ICPDS), *IEEE Workshop on Advances in Parallel and Distributed Systems*, *International Conference on Distributed Computing Systems* (ICDCS), *Annual Simulation Symposium*, *International Workshop on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS).

1992 Program Committee: *Annual Simulation Symposium*, *Second Workshop on the Management of Replicated Data* (WMRD), *International Workshop on Modeling, Analysis and Simulation of Computer and Telecommunication Systems* (MASCOTS).

1991 Local Arrangements Chair and Program Committee: *Second Workshop on the Management of Replicated Data* (WMRD).

1990 Publicity Chair: *First Workshop on the Management of Replicated Data* (WMRD).

1989 Program Committee: *Usenix Association/ACM/IEEE-CS, Workshop on Experiences with Building Distributed and Multiprocessor Systems*.

1988 Program Committee: *IFIP Working Group 6.5, International Working Conference on Message Handling Systems and Distributed Applications*.

Membership in Professional Associations

| Year | Rank | Professional Society |
|------|--------|--|
| 2019 | Member | International Association for Cryptologic Research (IACR) |
| 2012 | Member | Armed Forces Communications & Electronics Association |
| 2008 | Fellow | American Association for the Advancement of Science (AAAS) |
| 2006 | Fellow | Institute of Electrical & Electronics Engineers (IEEE) |
| 2006 | Member | American Society for Engineering Education (ASEE) |
| 1991 | Member | Usenix Association |
| 1989 | Member | Sigma Xi (Scientific Research Society) |
| 1987 | Member | IEEE Computer Society |
| 1981 | Member | Association for Computing Machinery (ACM) |

Consulting

| Years | Organization | Role |
|---------|--|------------------|
| 2015– | Wilson, Sonsini, Goodrich & Rosati | Technical Expert |
| | Fish & Richardson | Technical Expert |
| 2015 | Foley & Lardner | Technical Expert |
| | DLA Piper | Technical Expert |
| 2014– | Latham & Watkins | Technical Expert |
| | Beck & Hall | Technical Expert |
| 2013–15 | Faegre, Baker & Daniels | Technical Expert |
| | Wilmer Cutler Pickering Hale | Technical Expert |
| 2013–14 | County of Tehama | Technical Expert |
| 2012–13 | Klarquist Sparkman | Technical Expert |
| | Wilson, Sonsini, Goodrich & Rosati | Technical Expert |
| 2011–14 | Morgan, Lewis & Bockius | Technical Expert |
| | Fish & Richardson | Technical Expert |
| 2011–13 | Connolly Bove | Technical Expert |
| 2011–12 | Haynes & Boone | Technical Expert |
| 2011 | Fujitsu Semiconductor America | Consultant |
| 2010–12 | Quinn Emanuel Urquhart & Sullivan | Technical Expert |
| | Fish & Richardson | Technical Expert |
| | Simpson, Thacher & Bartlett | Technical Expert |
| 2009 | Preston, Gates & Ellis | Technical Expert |
| 2008–09 | Weil, Gotshal & Manges | Technical Expert |
| 2008–10 | Hewlett-Packard Laboratories | Consultant |
| 2007– | Center for Communications Research | Adjunct |
| 2006–10 | Weil, Gotshal & Manges | Technical Expert |
| 2006–14 | Fish & Richardson | Technical Expert |
| 2004–05 | Faegre & Benson | Technical Expert |
| 2004 | Siemens Technology-to-Business Center | Consultant |
| 2002– | MITRE Corporation | JASON |
| 2002–05 | Fish & Richardson | Technical Expert |
| 2001–03 | Hecker Law Group | Technical Expert |
| | Bartlit, Beck, Herman, Palenchar & Scott | Technical Expert |
| | Jenner & Block | Technical Expert |
| 2000 | Sony Music Ventures | Consultant |
| 1997–02 | Chief of Naval Research | Consultant |

| | | |
|---------|-----------------------------|--------------------|
| 1996 | Chatham Group | Technical Expert |
| 1995–11 | IBM Almaden Research Center | Visiting Scientist |

Editorial Duties

2023 Associate Editor, *Springer Journal of Big Data (JOB)*

2017–20 Editor-in-Chief, *Letters of the Computer Society*.

2016–19 Associate Editor, *IEEE Transactions on Computers*.

2011 Guest Editor, *Information Systems Databases: Creation, Management and Utilization*, Elsevier, vol. 36, no. 3, May 2011.

2010–16 Editor-in-Chief, *ACM Transactions on Storage*.

2009 Guest Editor, *Web Information Systems Engineering* (WISE 2009), LNCS 5802.

2004–10 Associate Editor, *ACM Transactions on Storage*.

2002–03 Editorial Board, *Mobile Computing and Communications Review*.

1993–97 Editorial Board, *International Journal in Computer Simulation*.

1990–93 Editor, *Bulletin of the IEEE Computer Society Technical Committee on Operating Systems and Applications Environments*.

1990–93 Associate Editor, *International Journal in Computer Simulation*.

Reviewer of Technical Papers and Proposals

2023 ACM Transactions on Computer Systems.

2022 ACM Transactions on Computer Systems; The Journal of Super Computing; Performance Evaluation.

2021 Transactions on Dependable and Secure Computing.

2017 Information Security Journal: A Global Perspective; ACM Transactions on Storage.

2016 ACM Transactions on Modeling and Performance Evaluation of Computing Systems; Israel Science Foundation; Flanders Innovation & Entrepreneurship.

2012 ACM Transactions on Storage; Journal of Computer Science and Technology; IEEE Transactions on Neural Networks and Learning Systems; IEEE Transactions of Reliability.

2009 ACM Transactions on Storage; The Journal of Systems and Software.

2008 ACM Transactions on Storage; IEEE Transactions on Computers; International Conference on Networking, Architecture, and Storage.

2007 ACM Transactions on Storage; IEEE Transactions on Computers; Performance and Dependability Symposium (PDS).

2006 IEEE Transactions on Computers; ACM Transactions on Storage; IEEE Transactions on Magnetics; International Symposium on Stabilization, Safety, and Security of Distributed Systems; International Parallel and Distributed Processing Symposium; University of California, MICRO Program; International Conference on Dependable Systems and Networks.

2005 ACM Transactions on Storage; IEEE/ACM Transactions on Networking.

2004 ACM Transactions on Storage; IEEE Transactions on Computers; IEEE Transactions on Parallel and Distributed Systems; International Journal of Computers and Applications.

2003 Symposium on Operating Systems Principles; IEEE Transactions on Broadcasting; Computer Journal; IEEE Communications Letters.

2002 Transactions on Knowledge and Data Engineering; Transactions on Broadcasting; International Conference on Parallel Processing; IEEE Communications Letters; Symposium on Operating System Design and Implementation; Western Multiconference.

2001 IEEE Personal Communications; Workshop on Hot Topics in Operating Systems (HotOS); ETRI Journal; International Conference on Modeling, Analysis, and Simulation of Computer and Telecommunications Systems; International Conference on Distributed Computing Systems; Symposium on Operating Systems Principles; Western Multiconference.

2000 Transactions on Knowledge and Data Engineering; Symposium on Reliable Distributed Systems; Communications of the ACM; IEEE Personal Communications; Transactions on Computer Systems; Transactions on Modeling and Computer Simulation; Workshop on Wireless Networks and Mobile Computing.

1999 ACM/Baltzer Mobile Networks and Applications; IEEE Software; IEEE Transactions on Software Engineering; International Conference on Modeling, Analysis, and Simulation of Computer and Telecommunications Systems; Usenix Technical Conference; Journal of Parallel and Distributed Computing.

1998 IEEE Software; IEEE Transactions on Parallel and Distributed Systems; ACM Transactions on Computer Systems; Conference on Computing and Telecommunications; International Conference on High Performance Computing; International Conference on Parallel Processing.

1997 National Science Foundation; IEEE Computer; IEEE Transactions on Parallel and Distributed Systems; Symposium on Reliable Distributed Systems; Software – Practice & Experience; IEEE Software; Computer Journal; Transactions on Knowledge and Data Engineering.

1996 National Science Foundation; Computer Journal; University of California, MICRO program; Information Systems Journal; IEEE Transactions on Parallel and Distributed Systems.

1995 University of California, MICRO program; National Science Foundation; Computer Journal; Distributed Systems Engineering Journal; Computing Surveys; Dependable Computing and Critical Applications Conference; IEEE Transactions on Knowledge and Data Engineering.

1994 IEEE Computer; High Performance Distributed Computing; California Space Institute; Operating Systems Design and Implementation; International Journal in Computer Simulation; Information Processing Letters; Journal of Distributed and Parallel Data Bases; IEEE Software. ACM Transactions on Computer Systems.

1993 International Conference on Distributed Computing Systems; Distributed and Parallel Databases; Hawaii International Conference on Systems Sciences; International Workshop on Modeling, Analysis, and Simulation of Computer and Telecommunications Systems; International Symposium on Autonomous Decentralized Systems; IEEE Transactions on Parallel Distributed Systems; IEEE Transactions on Computers; Information Processing Letters; IEEE Computer.

1992 International Symposium on Autonomous Decentralized Systems; IEEE Transactions on Parallel Distributed Systems; IEEE/ACM Transactions on Networking; Information Systems; IFIP Dependable Computing in Critical Applications; IEEE Transactions on Software Engineering; IEEE Transactions on Computers; International Conference on Data Engineering; IEEE Transactions on Knowledge and Data Engineering; University of California, MICRO Program; IEEE Computer; Information Processing Letters.

1991 International Conference on Data Engineering; International Journal on Very Large Databases; ACM Conference on Principles of Data Base Systems; IEEE Transactions on Parallel and Distributed Systems; IEEE Transactions on Knowledge and Data Engineering; Computing Systems; University of California, MICRO Program; IEEE Computer; ACM Transactions on Computer Systems; Information Processing Letters.

1990 IEEE Transactions on Parallel and Distributed Systems; IEEE Transactions on Knowledge and Data Engineering; Computing Systems; Communications of the ACM; 1991 SIGMETRICS Conference on Measurement and Modeling of Computer Systems; University of California, MICRO Program; National Science Foundation; IEEE Computer; ACM Transactions on Computer Systems; Information Processing Letters; IEEE Software.

1989 National Science Foundation; IEEE Computer; ACM Transactions on Computer Systems; Information Processing Letters; IEEE Software; International Conference on Data Engineering; International Conference on Distributed Computing Systems.

1988 International Conference on Distributed Computing Systems.

1987 International Conference on Data Engineering.

Reviewer for Publishers

2011 John Wiley & Sons.

2003 Prentice-Hall.

2002 John Wiley & Sons.

1997 Academic Press; Addison-Wesley; Gordon and Beach.

1995 Addison-Wesley; Benjamin/Cummings; Springer-Verlag.

1994 Benjamin/Cummings; Morgan-Kaufman.

1993 Kluwer Academic Publishers; Norton; Benjamin/Cummings; McGraw-Hill; John Wiley & Sons.

1991–93 Aksen Associates.

1988–91 Addison-Wesley.

Government Service

2020 Intelligence Science and Technology Experts Group (ISTEG) (National Academies of Sciences, Engineering and Medicine committee). National Nuclear Security Administration. Department of Defense.

2019 Intelligence Science and Technology Experts Group (ISTEG) (National Academies of Sciences, Engineering and Medicine committee). National Nuclear Security Administration. Department of Defense. Department of State.

2018 Intelligence Science and Technology Experts Group (ISTEG) (National Academies of Sciences, Engineering and Medicine committee). National Nuclear Security Administration. Department of Defense.

2017 Intelligence Science and Technology Experts Group (ISTEG) (National Academies of Sciences, Engineering and Medicine committee). National Nuclear Security Administration. Department of Defense.

2016 Intelligence Science and Technology Experts Group (ISTEG) (National Academies of Sciences, Engineering and Medicine committee). National Security Directorate Advisory Committee (Pacific Northwest National Laboratory). Computer Information Science External Review Board (Sandia National Laboratory). National Nuclear Security Administration. Department of Energy. Department of Defense.

2015 Intelligence Science and Technology Experts Group (ISTEG) (National Academies of Sciences, Engineering and Medicine committee). National Security Directorate Advisory Committee (Pacific Northwest National Laboratory). Computer Information Science External Review Board (Sandia National Laboratory). National Nuclear Security Administration. Department of Energy. Department of Defense.

2014 National Security Directorate Advisory Committee (Pacific Northwest National Laboratory). Computer Information Science External Review Board (Sandia National Laboratory). National Nuclear Security Administration. Department of Energy. Department of Defense.

2013 National Research Council, Committee on Science and Technology for Defense Warning. National Nuclear Security Administration. Department of Energy. Department of Defense.

2012 National Research Council, Committee for Science and Technology Challenges to U.S. National Security Interests. National Research Council, Committee on Science and Technology for Defense Warning, Standing Committee on Technology Insight-Gauge, Evaluate, and Review (TIGER). National Nuclear Security Administration. Department of Energy. Department of Defense.

2011 National Research Council, Standing Committee on Technology Insight-Gauge, Evaluate, and Review (TIGER). National Research Council, report reviewer. National Nuclear Security Administration. Department of Defense. Department of the Navy.

2010 Department of Energy. National Nuclear Security Administration. Department of Defense. National Research Council, report reviewer.

2009 United States Army Laboratory Assessment Group. Department of Energy. National Nuclear Security Administration. Department of Defense. Department of Energy, Office of Science (Early Career panel).

2008 United States Army Laboratory Assessment Group. National Research Council, Standing Committee on Technology Insight-Gauge, Evaluate, and Review (TIGER). Department of Energy. National Nuclear Security Administration. Department of Defense.

2007 External Review Committee, United States Naval Postgraduate School. United States Army Technology Objectives Review Panel. National Science Foundation (review panels). National Research Council, Standing Committee on Technology Insight-Gauge, Evaluate, and Review (TIGER). National Research Council, Reviewer. Department of Energy. National Nuclear Security Administration. Department of Defense.

2006 National Science Foundation (review panels). National Research Council, Standing Committee on Technology Insight-Gauge, Evaluate, and Review (TIGER). National Research Council, Reviewer. Department of Energy. National Nuclear Security Administration. Department of Defense.

2005 National Research Council, Standing Committee on Technology Insight-Gauge, Evaluate, and Review (TIGER). Department of Energy. National Nuclear Security Administration. Department of Defense.

2004 National Research Council, Defense Intelligence Agency Technology Forecast and Reviews Committee. National Nuclear Security Administration. Department of Defense. Los Alamos National Laboratory, hiring committee for Associate Director for Nuclear Weapons Physics and Principal Associate Director for Nuclear Weapons Programs.

2003 National Science Foundation (two Information Technology Research panels). Department of Energy. National Nuclear Security Administration. Department of Defense.

2002 National Science Foundation (two Information Technology Research panels). Department of Energy. National Nuclear Security Administration.

2001 National Science Foundation. Department of Energy. National Nuclear Security Administration.

2000 National Science Foundation (Information Technology Research panel, National Environmental Observatory Network planning panel, CAREER panel).

1999 National Science Foundation (site review of Data Storage Systems Center, panel on Engineering Research Centers). Department of Defense.

1998 National Science Foundation (site review of Data Storage Systems Center). Department of the Navy.

1997 Department of the Navy.

Service to Professional Societies

2020 IEEE Fellows Evaluation Committee.

2014 IEEE Fellows Evaluation Committee.

2013 IEEE Fellows Evaluation Committee.

2011–12 Member and Chair Emeritus, IEEE Reynold B. Johnson Information Storage Systems Award Committee.

2011 IEEE Fellows Evaluation Committee, IEEE Fellow Society/Technical Council Evaluator.

2010 IEEE Fellows Evaluation Committee.

2008–11 Chair, IEEE Reynold B. Johnson Information Storage Systems Award Committee, IEEE Technical Field Awards Council.

2007 IEEE Fellows Evaluation Committee.

2006–08 IEEE Reynold B. Johnson Information Storage Systems Award Committee.

2000–02 Chair, Usenix Association Scholarship and Research Committee.

1998–02 Usenix Association Scholarship and Research Committee.

1997– University Liaison for the Usenix Association.

1997 Committee on the Future of the Usenix Association.

1996– Executive Committee, *IEEE Technical Committee on Operating Systems*.

1995 IEEE/ACM focus group on Software Engineering Body of Knowledge and Recommended Practices.

1993–96 Chair, *IEEE Technical Committee on Operating Systems and Applications Environments*.

University Service

Senate Service

2018–19 Committee on Research.

2016–17 Committee on Academic Freedom.

2008–09 Committee on Academic Personnel *ad hoc* subcommittee.

2007–08 Committee on Academic Personnel *ad hoc* subcommittee.

2006–07 Committee on Research.

2005–06 Committee on Research; Committee on Academic Personnel *ad hoc* subcommittee.

2003–04 Committee on Committees; Committee on Academic Personnel *ad hoc* subcommittee.

2001–02 Committee on Academic Personnel *ad hoc* subcommittee; Committee on Research.

2000–01 Committee on Research; Chair, Committee on Academic Personnel *ad hoc* subcommittee;

2000–01 Silicon Valley Regional Center Task Force; California Institutes for Science and Innovation proposal (with P. Mantey & Berkeley colleagues).

1999–00 Committee on Academic Personnel *ad hoc* subcommittee; Computing and Telecommunications Committee.

1998–99 Computing and Telecommunications Committee.

1995–97 Senate Rules Committee, Information Technology Disaster Preparedness Task Force.

Campus Service

2015– Genomics Institute Steering Committee.

2004–05 Confidential personnel review for senior administrator.

2000–04 Chair, Engineering II Building Committee.

1998–99 Confidential personnel review for senior administrator.

1998 Faculty mentor, California Alliance for Minority Participation (CAMP).

1997 Faculty mentor, California Alliance for Minority Participation (CAMP).

1996–97 Information Technology Disaster Preparedness Task Force.

1994–95 Task Force on Computer and Network Security, Summer Science Honors Institute.

1990–91 Technical Consultant to Computing and Telecommunication Services (CATS) for University computing facilities.

1988–89 Applied Sciences Building Remodeling Committee. Open Access Computing Committee.

School of Engineering Service

- 2017– Strategic Faculty Advisor to the School of Engineering.
- 2004–10 Associate Dean for Research and Graduate Studies.
- 1998–01 Associate Dean for Research.
- 1995–96 Electrical Engineering/Applied and Engineering Mathematics Committee.
- 1988–90 Natural Sciences Division Space Committee.

Departmental Service

- 2015–16 Personnel Review Committee; Chair, *ad hoc* Personnel Committee; Security & Privacy faculty hiring committee.
- 2014–15 Personnel Review Committee; Chair, *ad hoc* Personnel Committee; Experimental Computer Science faculty hiring committee.
- 2013–14 Department Chair Selection Committee; Personnel Review Committee; Data Sciences faculty hiring committee.
- 2011–12 Personnel Best Practices Committee; Personnel Review Committee; Chair, *ad hoc* Personnel Committee.
- 2010–11 Department Awards Coordinator; Chair, *ad hoc* Personnel Committee; Chair, Adjunct Committee.
- 2009–10 Director for Research, Computer Science Department; Chair, Adjunct Committee.
- 2008–09 Director for Research, Computer Science Department; Chair, Adjunct Committee.
- 2007–08 Director for Research, Computer Science Department; Chair, Adjunct Committee; Seminar Coordinator, Computer Science Department.
- 2006–07 Personnel Review Committee; Director for Research, Computer Science Department.
- 2005–06 Personnel Review Committee; Director for Research, Computer Science Department; Department of Information Systems and Technology Management.
- 2004–05 Director for Research, Computer Science Department; Master of Ceremonies, Engineering 2 dedication; Information Technologies Institute (ITI) Executive Committee.
- 2003–04 Director for Research, Computer Science Department; Information Technologies Institute (ITI) Executive Committee; School of Engineering Technical Services Committee.
- 2002–03 Chair, Promotion Review Subcommittee; Computer Science Faculty Recruitment Committee; ISTM Chair Recruitment; Faculty Recruitment Committee.
- 2001–02 Chair, Promotion Review Subcommittee; Computer Science Faculty Recruitment Committee; Computer Science Department Facilities Director; Computing Infrastructure Committee; Faculty Recruitment Committee.
- 2000–01 Computer Science Faculty Recruitment Committee; Computer Science Department Facilities Director; Computing Infrastructure Committee; Faculty Recruitment Committee.
- 1999–00 Computer Science Faculty Recruitment Committee; Computer Science Department Facilities Director; Computing Infrastructure Committee; Faculty Recruitment Committee.

1998–99 Computer Science Faculty Recruitment Committee; Computer Science Department Facilities Director; Computing Infrastructure Committee; Faculty Recruitment (Software Engineering); Information Systems Management Major.

1997–98 Computer Science Faculty Recruitment Committee; Computer Science Department Facilities Director; Information Systems Management Major.

1991–96 Computer Science Facilities Director.

1990–91 Computer & Information Sciences Assistant Facilities Director.

1989–90 Computer & Information Sciences Department Faculty Recruitment Committee, Co-Chair for the Operating Systems position.

1989 Computer & Information Sciences Department Representative to Electronics Engineering Program Development Committee.

1988–89 Research Funding Director, Computer & Information Sciences Department (responsible for the CIS/CE 1989 grant proposal to the National Science Foundation Institutional Infrastructure Program).

1988–89 Computer & Information Sciences Department Representative on Computer Engineering Department Recruitment Committee.

System-wide Service

2020–23 Academic Council's Special Committee on Laboratory Issues (ACSCOLI).

2011–16 Academic Council's Special Committee on Laboratory Issues (ACSCOLI).

2007–13 Science & Technology Committee for both Lawrence Livermore and Los Alamos National Laboratories (University of California, Office of the President).

2007–14 Multiple Directorate and Capability review committees for Lawrence Livermore and Los Alamos National Laboratories (University of California, Office of the President).

2007–08 Advisory Board, Department of Computer Engineering, Santa Clara University; Predictive Knowledge Systems Advisory Committee, Lawrence Livermore National Laboratory (University of California, Office of the President).

2007 Nonproliferation, Homeland and International Security, Directorate Review Committee, Lawrence Livermore National Laboratory; Petascale Computing Management Review Committee, Los Alamos National Laboratory (University of California, Office of the President).

2005–20 Faculty Advisory Group for the South Asia Initiative.

2005– Executive Committee, Center for Information technology Research in the Interest of Society (CITRIS).

2003–07 National Security Panel and Intelligence Panel for the National Laboratories (University of California, Office of the President).

2002–03 Chair, University-wide Committee on Research Policy; National Security Panel, Science & Technology Panel, and President's Council (University-wide Senate Representative).

2001–02 Vice Chair, University-wide Committee on Research Policy; Screening Committee for the Director of Lawrence Livermore National Laboratory; National Security Panel, Science & Technology Panel, President's Council (University-wide Senate Representative).

2000–03 University-wide Committee on Research Policy.

TEACHING 1988-89

| | | | | Enrolled | %Eval Retd | Shared? |
|--------|-----|-----|---------------------------------|----------|------------|---------|
| Fall | CIS | 104 | Introduction to Compiler Design | 43 | 74 | no |
| | CIS | 301 | Supervised Teaching Experience | 1 | n/a | no |
| Winter | CIS | 221 | Advanced Operating Systems | 5 | 100 | no |
| Spring | CIS | 104 | Introduction to Compiler Design | 31 | 74 | no |
| | CIS | 301 | Supervised Teaching Experience | 1 | 100 | no |

TEACHING 1989-90

| | | | | Enrolled | %Eval Retd | Shared? |
|--------|-----|-----|---------------------------------|----------|------------|---------|
| Fall | CIS | 204 | Compiler Design | 18 | 94 | no |
| | CIS | 297 | Independent Study/Research | 1 | n/a | no |
| Winter | CIS | 299 | Thesis Research | 1 | n/a | no |
| | CIS | 104 | Introduction to Compiler Design | 17 | 88 | no |
| Spring | CIS | 195 | Independent Study/Research | 1 | n/a | no |
| | CIS | 221 | Advanced Operating Systems | 8 | 88 | no |
| Spring | CIS | 299 | Thesis Research | 3 | n/a | no |
| | CIS | 301 | Supervised Teaching Experience | 1 | 100 | no |
| Spring | CIS | 104 | Introduction to Compiler Design | 22 | 86 | no |
| | CIS | 297 | Independent Study/Research | 2 | n/a | no |
| Spring | CIS | 299 | Thesis Research | 3 | n/a | no |
| | CIS | 301 | Supervised Teaching Experience | 1 | 100 | no |

TEACHING 1990-91

| | | | | Enrolled | %Eval Retd | Shared? |
|--------|-----|------|------------------------------------|----------|------------|---------|
| Fall | CIS | 204 | Compiler Design | 10 | 100 | no |
| | CIS | 221 | Advanced Operating Systems | 12 | 75 | no |
| Winter | CIS | 299 | Thesis Research | 3 | n/a | no |
| | CIS | 104A | Fundamentals of Compiler Design I | 18 | 67 | no |
| Spring | CIS | 198 | Independent Study/Research | 2 | n/a | no |
| | CIS | 297 | Independent Study/Research | 1 | n/a | no |
| Spring | CIS | 299 | Thesis Research | 3 | n/a | no |
| | CIS | 301 | Supervised Teaching Experience | 1 | n/a | no |
| Spring | CIS | 104B | Fundamentals of Compiler Design II | 17 | 76 | no |
| | CIS | 195 | Independent Study/Research | 2 | n/a | no |
| Spring | CIS | 297 | Independent Study/Research | 2 | n/a | no |

TEACHING 1991-92

| | | | | Enrolled | %Eval Retd | Shared? |
|--------|-----|-----|----------------------------|----------|------------|---------|
| Fall | CIS | 221 | Advanced Operating Systems | 9 | 100 | no |
| | CIS | 198 | Independent Study/Research | 1 | n/a | no |
| Winter | CIS | 297 | Independent Study/Research | 2 | n/a | no |
| | CIS | 299 | Thesis Research | 1 | n/a | no |
| Winter | CIS | 198 | Independent Study/Research | 2 | n/a | no |
| | CIS | 297 | Independent Study/Research | 3 | n/a | no |

| | | | | | | |
|--------|-----|------|--------------------------------------|----|-----|----|
| | CIS | 299 | Thesis Research | 3 | n/a | no |
| Spring | CIS | 104B | Fundamentals of Compiler Design II | 14 | 79 | no |
| | CIS | 195 | Independent Study/Research | 2 | n/a | no |
| | CIS | 198 | Independent Study/Research | 1 | n/a | no |
| | CIS | 203 | Programming Languages & Environments | 8 | 88 | no |
| | CIS | 297 | Independent Study/Research | 3 | n/a | no |
| | CIS | 299 | Thesis Research | 5 | n/a | no |
| | CIS | 301 | Supervised Teaching Experience | 1 | 100 | no |

TEACHING 1992-93

| | | | | Enrolled | %Eval | Retd | Shared? |
|--------|------|-----|-----------------------------------|----------|-------|------|---------|
| Fall | CIS | 111 | Introduction to Operating Systems | 43 | 80 | | no |
| | CIS | 299 | Thesis Research | 6 | n/a | | no |
| | CIS | 301 | Supervised Teaching Experience | 1 | 100 | | no |
| Winter | CIS | 198 | Independent Study/Research | 1 | n/a | | no |
| | CIS | 204 | Compiler Design | 5 | 100 | | no |
| | CIS | 297 | Independent Study/Research | 4 | n/a | | no |
| Spring | CIS | 299 | Thesis Research | 3 | n/a | | no |
| | CIS | 195 | Senior Thesis Research | 1 | n/a | | no |
| | CIS | 221 | Advanced Operating Systems | 8 | 100 | | no |
| | CIS | 297 | Independent Study/Research | 4 | n/a | | no |
| | CIS | 299 | Thesis Research | 3 | n/a | | no |
| | Stev | 003 | Privacy & Computer Security | 11 | 73 | | no |

TEACHING 1993-94

| | | | | Enrolled | %Eval | Retd | Shared? |
|--------|-----|-----|--------------------------------------|----------|-------|------|---------|
| Fall | CIS | 111 | Introduction to Operating Systems | 36 | 78 | | no |
| | CIS | 297 | Independent Study/Research | 4 | n/a | | no |
| | CIS | 299 | Thesis Research | 3 | n/a | | no |
| Winter | CIS | 301 | Supervised Teaching Experience | 1 | 100 | | no |
| | CIS | 204 | Compiler Design | 5+1 | 100 | | no |
| | CIS | 297 | Independent Study/Research | 10 | n/a | | no |
| Spring | CIS | 299 | Thesis Research | 1 | n/a | | no |
| | CIS | 203 | Programming Languages & Environments | 21 | 85 | | no |
| | CIS | 297 | Independent Study/Research | 8 | n/a | | no |
| | CIS | 299 | Thesis Research | 5 | n/a | | no |

TEACHING 1994-95

| | | | | Enrolled | %Eval | Retd | Shared? |
|--------|-----|-----|-----------------------------------|----------|-------|------|---------|
| Fall | CIS | 111 | Introduction to Operating Systems | 56 | 68 | | no |
| | CIS | 195 | Senior Thesis Research | 1 | n/a | | no |
| | CIS | 221 | Advanced Operating Systems | 15 | 60 | | no |
| | CIS | 297 | Independent Study/Research | 3 | n/a | | no |
| | CIS | 299 | Thesis Research | 9 | n/a | | no |
| | CIS | 301 | Supervised Teaching Experience | 1 | 100 | | no |
| Winter | CIS | 198 | Independent Study/Research | 3 | n/a | | no |

| | | | | | | |
|--------|-----|-----|--------------------------------------|------|-----|----|
| Spring | CIS | 297 | Independent Study/Research | 5 | n/a | no |
| | CIS | 299 | Thesis Research | 10 | n/a | no |
| | CIS | 195 | Senior Thesis Research | 1 | n/a | no |
| | CIS | 203 | Programming Languages & Environments | 16+3 | 95 | no |
| | CIS | 297 | Independent Study/Research | 2 | n/a | no |
| | CIS | 299 | Thesis Research | 10 | n/a | no |
| | CIS | 301 | Supervised Teaching Experience | 1 | 100 | no |

TEACHING 1995-96

| | | | | Enrolled | %Eval | Retd | Shared? |
|--------|------|-----|-----------------------------------|----------|-------|------|---------|
| Fall | CIS | 111 | Introduction to Operating Systems | 18 | 78 | | no |
| | CIS | 204 | Compiler Design | 6 | 83 | | no |
| | CIS | 297 | Independent Study/Research | 3 | n/a | | no |
| | CMPE | 297 | Independent Study/Research | 1 | n/a | | no |
| | CIS | 299 | Thesis Research | 3 | n/a | | no |
| | | | | | | | |
| Winter | CIS | 198 | Independent Study/Research | 2 | n/a | | no |
| | CIS | 297 | Independent Study/Research | 4 | n/a | | no |
| | CIS | 299 | Thesis Research | 3 | n/a | | no |
| Spring | CIS | 195 | Senior Thesis Research | 1 | n/a | | no |
| | CIS | 221 | Advanced Operating Systems | 13 | 77 | | no |
| | CIS | 297 | Independent Study/Research | 3 | n/a | | no |
| | CMPE | 297 | Independent Study/Research | 1 | n/a | | no |
| | CIS | 299 | Thesis Research | 6 | n/a | | no |
| | CMPE | 299 | Thesis Research | 1 | n/a | | no |

TEACHING 1996-97

| | | | | Enrolled | %Eval | Retd | Shared? |
|--------|------|------|-----------------------------------|----------|-------|------|---------|
| Fall | CMPS | 111 | Introduction to Operating Systems | 20 | 70 | | no |
| | CMPS | 195 | Thesis Research | 1 | n/a | | no |
| | CMPS | 297 | Independent Study/Research | 8 | n/a | | no |
| | CMPE | 297 | Independent Study/Research | 4 | n/a | | no |
| | CMPS | 299 | Thesis Research | 5 | n/a | | no |
| | CMPE | 299 | Thesis Research | 3 | n/a | | no |
| Winter | CMPS | 301 | Supervised Teaching Experience | 1 | 100 | | no |
| | CMPS | 290X | Cryptography | 6 | 67 | | no |
| | CMPS | 297 | Independent Study/Research | 5 | n/a | | no |
| | CMPS | 299 | Thesis Research | 6 | n/a | | no |
| Spring | CMPE | 299 | Thesis Research | 2 | n/a | | no |
| | CMPS | 090X | Internet Security & Privacy | 19 | 58 | | no |
| | CMPS | 221 | Advanced Operating Systems | 8 | 88 | | no |
| | CMPS | 297 | Independent Study/Research | 6 | n/a | | no |
| | CMPS | 299 | Thesis Research | 6 | n/a | | no |
| | CMPE | 299 | Thesis Research | 3 | n/a | | no |

TEACHING 1997-98

Enrolled %Eval Retd Shared?

| | | | | | | |
|--------|------|-----|-----------------------------------|----|-----|----|
| Fall | CMPS | | Sabbatical Leave | | | |
| | CMPS | 297 | Independent Study/Research | 1 | n/a | no |
| | CMPS | 299 | Thesis Research | 9 | n/a | no |
| | CMPE | 299 | Thesis Research | 3 | n/a | no |
| Winter | CMPS | 112 | Comparative Programming Languages | 58 | 60 | no |
| | CMPS | 297 | Independent Study/Research | 3 | n/a | no |
| | CMPS | 299 | Thesis Research | 10 | n/a | no |
| | CMPE | 299 | Thesis Research | 2 | n/a | no |
| | CMPS | 301 | Supervised Teaching Experience | 1 | n/a | no |
| Spring | CMPS | 221 | Advanced Operating Systems | 9 | 100 | no |
| | CMPS | 297 | Independent Study/Research | 2 | n/a | no |
| | CMPS | 299 | Thesis Research | 8 | n/a | no |
| | CMPE | 299 | Thesis Research | 1 | n/a | no |

TEACHING 1998-99

| | | | | Enrolled | %Eval | Retd | Shared? |
|--------|------|------|-----------------------------------|----------|-------|------|---------|
| Fall | CMPE | 299 | Thesis Research | 1 | n/a | | no |
| | CMPS | 297 | Independent Study/Research | 3 | n/a | | no |
| | CMPS | 299 | Thesis Research | 6 | n/a | | no |
| Winter | CMPE | 299 | Thesis Research | 1 | n/a | | no |
| | CMPS | 297 | Independent Study/Research | 4 | n/a | | no |
| | CMPS | 299A | Thesis Research | 6 | n/a | | no |
| Spring | CMPE | 299 | Thesis Research | 1 | n/a | | no |
| | CMPS | 111 | Introduction to Operating Systems | 62 | 76 | | no |
| | CMPS | 221 | Advanced Operating Systems | 6 | 100 | | no |
| | CMPS | 297 | Independent Study/Research | 2 | n/a | | no |
| | CMPS | 299 | Thesis Research | 5 | n/a | | no |
| | CMPS | 301 | Supervised Teaching Experience | 1 | 100 | | no |
| Summer | CMPS | 198 | Independent Study/Research | 1 | n/a | | no |

TEACHING 1999-00

| | | | | Enrolled | %Eval | Retd | Shared? |
|--------|------|------|-----------------------------------|----------|-------|------|---------|
| Fall | CMPE | 299 | Thesis Research | 1 | n/a | | no |
| | CMPS | 111 | Introduction to Operating Systems | 45 | 63 | | no |
| | CMPS | 297 | Independent Study/Research | 2 | n/a | | no |
| | CMPS | 299 | Thesis Research | 6 | n/a | | no |
| | CMPS | 301 | Supervised Teaching Experience | 1 | 100 | | no |
| Winter | CMPS | 112 | Comparative Programming Languages | 47 | 73 | | no |
| | CMPS | 290X | Cryptography | 3 | 0 | | no |
| | CMPS | 297 | Independent Study/Research | 3 | n/a | | no |
| | CMPS | 299 | Thesis Research | 2 | n/a | | no |
| Spring | CMPS | 198 | Independent Study/Research | 1 | n/a | | no |
| | CMPS | 297 | Independent Study/Research | 2 | n/a | | no |
| | CMPS | 299 | Thesis Research | 3 | n/a | | no |

TEACHING 2000-01

Enrolled %Eval Retd Shared?

| | | | | | | |
|--------|------|------|--------------------------------------|----|-----|----|
| Fall | CMPS | 299C | Thesis Research | 2 | n/a | no |
| | CMPS | 301 | Supervised Teaching Experience | 1 | n/a | no |
| | ISM | 150 | Introduction To Information Networks | 36 | 0 | no |
| Winter | CMPS | 112 | Comparative Programming Languages | 75 | 77 | no |
| | CMPS | 297A | Individual Study/ Research | 1 | n/a | no |
| | CMPS | 299C | Thesis Research | 2 | n/a | no |
| | CMPS | 301 | Supervised Teaching Experience | 1 | n/a | no |
| Spring | CMPS | 297A | Individual Study/ Research | 3 | n/a | no |
| | CMPS | 299C | Thesis Research | 2 | n/a | no |
| Summer | CMPS | 297A | Individual Study/ Research | 1 | n/a | no |
| | CMPS | 299A | Thesis Research | 1 | n/a | no |

TEACHING 2001-02

| | | | | Enrolled | %Eval | Retd | Shared? |
|--------|------|--------|--------------------------------------|----------|-------|------|---------|
| Fall | CMPS | 198 | Individual Study/Research | 2 | n/a | no | |
| | CMPS | 297A | Individual Study/Research | 1 | n/a | no | |
| | CMPS | 299C | Thesis Research | 2 | n/a | no | |
| | ISM | 150 | Introduction To Information Networks | 54 | 69 | no | |
| Winter | CMPS | 195 | Senior Thesis Research | 1 | n/a | no | |
| | CMPS | 198 | Individual Study/Research | 1 | n/a | no | |
| | CMPS | 221 | Advanced Operating Systems | 17 | 82 | no | |
| | CMPS | 221-50 | Advanced Operating Systems | 9 | 89 | no | |
| | CMPS | 297A | Individual Study/Research | 2 | n/a | no | |
| | CMPS | 299C | Thesis Research | 2 | n/a | no | |
| Spring | CMPS | 112 | Comparative Programming Languages | 62 | 61 | no | |
| | CMPS | 198 | Individual Study/Research | 1 | n/a | no | |
| | CMPS | 296 | Masters Project | 1 | n/a | no | |
| | CMPS | 297A | Individual Study/Research | 1 | n/a | no | |
| | CMPS | 297B | Individual Study/Research | 1 | n/a | no | |
| | CMPS | 299A | Thesis Research | 1 | n/a | no | |
| | CMPS | 299C | Thesis Research | 2 | n/a | no | |
| Summer | CMPS | 297A | Individual Study/Research | 1 | n/a | no | |

TEACHING 2002-03

| | | | | Enrolled | %Eval | Retd | Shared? |
|--------|------|------|-----------------------------------|----------|-------|------|---------|
| Fall | CMPS | 111 | Introduction To Operating Systems | 53 | 92 | no | |
| | CMPS | 280S | Seminar On Computer Systems | 10 | n/a | no | |
| | CMPS | 297A | Individual Study/Research | 2 | n/a | no | |
| | CMPS | 297B | Individual Study/Research | 1 | n/a | no | |
| Winter | CMPS | 296 | Masters Project | 1 | n/a | no | |
| | CMPS | 297A | Individual Study/Research | 3 | n/a | no | |
| | CMPS | 297B | Individual Study/Research | 1 | n/a | no | |
| Spring | CMPE | 299B | Thesis Research | 1 | n/a | no | |
| | CMPS | 229 | Storage Systems | 8 | 100 | no | |
| | CMPS | 299B | Thesis Research | 1 | n/a | no | |

TEACHING 2003-04

| | | | | Enrolled | %Eval | Retd | Shared? |
|--------|------|------|--|----------|-------|------|---------|
| Fall | CMPS | 13H | Introduction Programming/Data Structures | 9 | 77 | | no |
| | CMPS | 280S | Seminar Computer Systems | 14 | 0 | | no |
| | CMPS | 297A | Individual Study | 1 | n/a | | no |
| | CMPS | 299A | Thesis Research | 1 | n/a | | no |
| | CMPS | 299B | Thesis Research | 1 | n/a | | no |
| Winter | CMPS | 111 | Introduction Operating Systems | 47 | 70 | | no |
| | CMPS | 297A | Individual Study | 3 | n/a | | no |
| | CMPS | 299B | Thesis Research | 2 | n/a | | no |
| Spring | CMPE | 297B | Individual Study | 1 | n/a | | no |
| | CMPS | 290S | Adv Topics: Computer Systems | 7 | 100 | | no |
| | CMPS | 297A | Individual Study | 2 | n/a | | no |
| | CMPS | 299A | Thesis Research | 2 | n/a | | no |
| | CMPS | 299B | Thesis Research | 1 | n/a | | no |

TEACHING 2004-05

| | | | | Enrolled | %Eval | Retd | Shared? |
|--------|------|------|-----------------------------------|----------|-------|------|---------|
| Fall | CMPS | 296 | Masters Project | 1 | n/a | | no |
| | CMPS | 297A | Individual Study | 1 | n/a | | no |
| | CMPS | 299A | Thesis Research | 1 | n/a | | no |
| | CMPS | 299B | Thesis Research | 1 | n/a | | no |
| Winter | CMPE | 299A | Thesis Research | 1 | n/a | | no |
| | CMPE | 299B | Thesis Research | 1 | n/a | | no |
| | CMPS | 296 | Masters Project | 1 | n/a | | no |
| | CMPS | 297A | Individual Study | 1 | n/a | | no |
| Spring | CMPS | 299A | Thesis Research | 2 | n/a | | no |
| | CMPS | 280S | Seminar Computer Systems | 18 | 50 | | no |
| | CMPS | 111 | Introduction to Operating Systems | 58 | 76 | | no |
| | CMPS | 297A | Individual Study | 2 | n/a | | no |
| | CMPS | 297B | Individual Study | 1 | n/a | | no |
| Summer | CMPS | 299A | Thesis Research | 1 | n/a | | no |
| | CMPS | 299B | Thesis Research | 1 | n/a | | no |
| Summer | CMPS | 297A | Individual Study | 1 | n/a | | no |

TEACHING 2005-06

| | | | | Enrolled | %Eval | Retd | Shared? |
|--------|------|------|-----------------------------------|----------|-------|------|---------|
| Fall | CMPS | 296 | Masters Project | 1 | n/a | | no |
| | CMPS | 297A | Individual Study | 2 | n/a | | no |
| | CMPS | 299A | Thesis Research | 1 | n/a | | no |
| | CMPS | 299B | Thesis Research | 2 | n/a | | no |
| | CMPS | 299C | Thesis Research | 1 | n/a | | no |
| Winter | CMPS | 60N | Beginning Programming | 3 | 133 | | no |
| | CMPS | 299A | Thesis Research | 2 | n/a | | no |
| | CMPS | 299B | Thesis Research | 3 | n/a | | no |
| | CMPS | 299C | Thesis Research | 1 | n/a | | no |
| Spring | CMPS | 111 | Introduction to Operating Systems | 24 | 108 | | yes |

| | | | | | |
|------|------|-----------------------------|----|-----|----|
| CMPS | 280 | Seminar on Computer Systems | 13 | 8 | no |
| CMPS | 299A | Thesis Research | 3 | n/a | no |
| CMPS | 299B | Thesis Research | 2 | n/a | no |
| CMPS | 299C | Thesis Research | 1 | n/a | no |

TEACHING 2006-07

| | | | Enrolled | %Eval | Retd | Shared? |
|--------|------|---------------------------------------|----------|-------|------|---------|
| Fall | CMPS | 299B Thesis Research | 2 | n/a | | no |
| | CMPS | 299B Thesis Research | 2 | n/a | | no |
| Winter | CMPS | 299A Thesis Research | 2 | n/a | | no |
| | CMPS | 299B Thesis Research | 2 | n/a | | no |
| Spring | CMPS | 111 Introduction to Operating Systems | 14 | 86 | | no |
| | CMPS | 198 Individual Study or Research | 1 | n/a | | no |
| | CMPS | 280S Seminar on Computer Systems | 16 | 13 | | no |
| | CMPS | 299B Thesis Research | 2 | n/a | | no |

TEACHING 2007-08

| | | | Enrolled | %Eval | Retd | Shared? |
|--------|------|---------------------------------------|----------|-------|------|---------|
| Fall | CMPS | 221 Advanced Operating Systems | 10 | 90 | | no |
| | CMPS | 280S Seminar on Computer Systems | 10 | 50 | | no |
| | CMPS | 299B Thesis Research | 2 | n/a | | no |
| Winter | CMPS | 297A Individual Study | 1 | n/a | | no |
| | CMPS | 299B Thesis Research | 1 | n/a | | no |
| Spring | CMPS | 299C Thesis Research | 1 | n/a | | no |
| | CMPS | 111 Introduction to Operating Systems | 38 | 71 | | no |
| | CMPS | 198 Individual Study or Research | 1 | n/a | | no |
| | CMPS | 280S Seminar on Computer Systems | 13 | 62 | | no |
| | CMPS | 297A Individual Study | 1 | n/a | | no |
| | CMPS | 297B Individual Study | 1 | n/a | | no |
| | CMPS | 299B Thesis Research | 1 | n/a | | no |
| | CMPS | 299C Thesis Research | 1 | n/a | | no |

TEACHING 2008-09

| | | | Enrolled | %Eval | Retd | Shared? |
|--------|------|---------------------------------------|----------|-------|------|---------|
| Fall | CMPE | 297B Individual Study | 1 | n/a | | no |
| | CMPS | 111 Introduction to Operating Systems | 21 | 43 | | no |
| | CMPS | 296 Masters Project | 1 | n/a | | no |
| | CMPS | 297B Individual Study | 1 | n/a | | no |
| | CMPS | 299A Thesis Research | 1 | n/a | | no |
| Winter | CMPS | 299C Thesis Research | 2 | n/a | | no |
| | CMPS | 297A Individual Study | 1 | n/a | | no |
| | CMPS | 297B Individual Study | 1 | n/a | | no |
| Spring | CMPS | 299C Thesis Research | 2 | n/a | | no |
| | CMPS | 223 Advanced Computer Security | 12 | 83 | | no |
| | CMPS | 223 Advanced Computer Security (LANL) | 2 | 100 | | no |
| | CMPS | 297A Individual Study | 2 | n/a | | no |

| | | | | | |
|------|------|------------------|---|-----|----|
| CMPS | 297B | Individual Study | 1 | n/a | no |
| CMPS | 299C | Thesis Research | 1 | n/a | no |

TEACHING 2009–10

| | | | Enrolled | %Eval Retd | Shared? |
|--------|------|------|---------------------------------------|------------|---------|
| Fall | CMPS | 5P | Introduction to Programming in Python | 92 | 48 |
| | CMPS | 280S | Seminar on Computer Systems | 16 | 75 |
| | CMPS | 297B | Individual Study | 1 | n/a |
| | CMPS | 297C | Individual Study | 2 | n/a |
| | CMPS | 299C | Thesis Research | 2 | n/a |
| Winter | CMPS | 297A | Individual Study | 2 | n/a |
| | CMPS | 299C | Thesis Research | 2 | n/a |
| Spring | CMPS | 198F | Independent Study or Research | 1 | n/a |
| | CMPS | 229 | Storage Systems | 11 | 82 |
| | CMPS | 280S | Seminar on Computer Systems | 14 | 36 |
| | CMPS | 297B | Individual Study | 1 | n/a |
| | CMPS | 299A | Thesis Research | 1 | n/a |
| | CMPS | 299C | Thesis Research | 3 | n/a |

TEACHING 2010–11

| | | | Enrolled | %Eval Retd | Shared? |
|--------|------|------|--------------------------------------|------------|---------|
| Fall | CMPS | 5C | Introduction to Programming in C/C++ | 119 | 45 |
| | CMPS | 280S | Seminar on Computer Systems | 12 | 33 |
| | CMPS | 297B | Individual Study | 1 | n/a |
| | CMPS | 297C | Individual Study | 1 | n/a |
| | CMPS | 299C | Thesis Research | 3 | n/a |
| Winter | CMPS | 297A | Individual Study | 1 | n/a |
| | CMPS | 297B | Individual Study | 1 | n/a |
| | CMPS | 299C | Thesis Research | 5 | n/a |
| Spring | CMPS | 111 | Introduction to Operating Systems | 28 | 64 |
| | CMPS | 280S | Seminar on Computer Systems | 13 | 69 |
| | CMPS | 296 | Masters Project | 1 | n/a |
| | CMPS | 297A | Individual Study | 1 | n/a |
| | CMPS | 297C | Individual Study | 1 | n/a |
| | CMPS | 299B | Thesis Research | 1 | n/a |
| | CMPS | 299C | Thesis Research | 3 | n/a |

TEACHING 2011–12

| | | | Enrolled | %Eval Retd | Shared? |
|--------|------|------|-------------------------------|------------|---------|
| Fall | CMPS | 198 | Independent Study or Research | 1 | n/a |
| | CMPS | 280S | Seminar on Computer Systems | 20 | 40 |
| | CMPS | 296 | Masters Project | 1 | n/a |
| | CMPS | 297A | Individual Study | 1 | n/a |
| | CMPS | 297B | Individual Study | 1 | n/a |
| | CMPS | 299C | Thesis Research | 5 | n/a |
| Winter | CMPS | 229 | Storage Systems | 13 | 38 |

| | | | | | | |
|--------|------|------|---------------------------------------|-----|-----|----|
| | CMPS | 297A | Individual Study | 2 | n/a | no |
| | CMPS | 299B | Thesis Research | 1 | n/a | no |
| | CMPS | 299C | Thesis Research | 5 | n/a | no |
| Spring | CMPS | 299C | Thesis Research | 1 | n/a | no |
| | CMPS | 5P | Introduction to Programming in Python | 136 | 66 | no |
| | CMPS | 280S | Seminar on Computer Systems | 19 | 47 | no |
| | CMPS | 296 | Masters Project | 1 | n/a | no |
| | CMPS | 297A | Individual Study | 2 | n/a | no |
| | CMPS | 297B | Individual Study | 2 | n/a | no |
| | CMPS | 297C | Individual Study | 1 | n/a | no |
| | CMPS | 299C | Thesis Research | 5 | n/a | no |
| Summer | CMPS | 297A | Individual Study | 3 | n/a | no |
| | CMPS | 299 | Thesis Research | 1 | n/a | no |

TEACHING 2012-13

| | | | | Enrolled | %Eval | Retd | Shared? |
|--------|------|------|-----------------------------|----------|-------|------|---------|
| Fall | CMPS | 280S | Seminar on Computer Systems | 17 | 76 | | no |
| | CMPS | 297A | Individual Study | 1 | n/a | | no |
| | CMPS | 297B | Individual Study | 2 | n/a | | no |
| | CMPS | 299C | Thesis Research | 6 | n/a | | no |
| Winter | CMPS | 297A | Individual Study | 2 | n/a | | no |
| | CMPS | 297B | Individual Study | 3 | n/a | | no |
| | CMPS | 297C | Individual Study | 2 | n/a | | no |
| | CMPS | 299A | Thesis Research | 1 | n/a | | no |
| | CMPS | 299C | Thesis Research | 5 | n/a | | no |
| Spring | CMPS | 280S | Seminar on Computer Systems | 14 | 71 | | no |
| | CMPS | 290X | Cryptgraph/Security | 7 | 43 | | no |
| | CMPS | 296 | Masters Project | 1 | n/a | | no |
| | CMPS | 297A | Individual Study | 1 | n/a | | no |
| | CMPS | 297B | Individual Study | 3 | n/a | | no |
| | CMPS | 299B | Thesis Research | 1 | n/a | | no |
| | CMPS | 299C | Thesis Research | 6 | n/a | | no |

TEACHING 2013-14

| | | | | Enrolled | %Eval | Retd | Shared? |
|--------|------|------|-----------------------------------|----------|-------|------|---------|
| Fall | CMPS | 105 | Systems Programming | 18 | 22 | | no |
| | CMPS | 280S | Seminar on Computer Systems | 13 | 23 | | yes |
| | CMPS | 297C | Individual Study | 1 | n/a | | no |
| | CMPS | 299B | Thesis Research | 1 | n/a | | no |
| | CMPS | 299C | Thesis Research | 5 | n/a | | no |
| Summer | CMPS | 297 | Independent Study or Research | 1 | n/a | | no |
| | CMPS | 297A | Individual Study | 1 | n/a | | no |
| Winter | CMPS | 111 | Introduction to Operating Systems | 32 | 59 | | no |
| | CMPS | 297B | Individual Study | 1 | n/a | | no |
| | CMPS | 297C | Individual Study | 1 | n/a | | no |
| | CMPS | 299A | Thesis Research | 2 | n/a | | no |
| | CMPS | 299B | Thesis Research | 1 | n/a | | no |
| | CMPS | 299C | Thesis Research | 4 | n/a | | no |

| | | | | | | |
|--------|------|------|--------------------------|----|-----|----|
| | EE | 195 | Senior Thesis Research | 1 | n/a | no |
| Spring | CMPS | 280S | Seminar Computer Systems | 14 | 50 | no |
| | CMPS | 297C | Individual Study | 1 | n/a | no |
| | CMPS | 299A | Thesis Research | 2 | n/a | no |
| | CMPS | 299C | Thesis Research | 5 | n/a | no |

TEACHING 2014-15

| | | | | Enrolled | %Eval Retd | Shared? |
|--------|------|------|-----------------------------------|----------|------------|---------|
| Fall | CMPS | 297C | Individual Study | 1 | n/a | no |
| | CMPS | 299B | Thesis Research | 1 | n/a | no |
| | CMPS | 299C | Thesis Research | 5 | n/a | no |
| Winter | CMPS | 111 | Introduction to Operating Systems | 42 | 69 | no |
| | CMPS | 280S | Seminar Computer Systems | 11 | 45 | yes |
| | CMPS | 297C | Individual Study | 1 | n/a | no |
| | CMPS | 299B | Thesis Research | 1 | n/a | no |
| | CMPS | 299C | Thesis Research | 5 | n/a | no |
| Spring | CMPS | 223 | Advanced Computer Security | 7 | 86 | no |
| | CMPS | 195 | Senior Thesis Research | 1 | n/a | no |
| | CMPS | 280S | Seminar Computer Systems | 11 | 45 | yes |
| | CMPS | 297B | Individual Study | 1 | n/a | no |
| | CMPS | 299B | Thesis Research | 1 | n/a | no |
| | CMPS | 299C | Thesis Research | 6 | n/a | no |

TEACHING 2015-16

| | | | | Enrolled | %Eval Retd | Shared? |
|--------|------|------|---|----------|------------|---------|
| Summer | CMPS | 299A | Thesis Research | 1 | n/a | no |
| Fall | CMPS | 13H | Honors Introduction to Programming | 40 | 68 | no |
| | CMPS | 13L | Honors Introduction to Programming Laboratory | 17 | n/a | no |
| | CMPS | 13L | Honors Introduction to Programming Laboratory | 19 | n/a | no |
| | CMPS | 280S | Seminar Computer Systems | 9 | 44 | yes |
| | CMPS | 299C | Thesis Research | 4 | n/a | no |
| | DANM | 297 | Independent Study | 1 | n/a | no |
| Winter | CMPS | 111 | Introduction to Operating Systems | 77 | 34 | no |
| | CMPS | 280S | Seminar Computer Systems | 7 | 29 | yes |
| | CMPS | 299C | Thesis Research | 3 | n/a | no |
| Spring | CMPS | 198F | Independent Study or Research | 1 | n/a | no |
| | CMPS | 229 | Storage Systems | 9 | 89 | no |
| | CMPS | 280S | Seminar Computer Systems | 14 | 64 | yes |
| | CMPS | 299C | Thesis Research | 4 | n/a | no |

TEACHING 2016-17

| | | | | Enrolled | %Eval Retd | Shared? |
|--------|------|------|-------------------------------|----------|------------|---------|
| Summer | CMPE | 198 | Independent Study or Research | 1 | n/a | no |
| | CMPS | 193 | Field Study | 1 | n/a | no |
| Fall | CMPS | 296 | Masters Project | 1 | n/a | no |
| | CMPS | 299C | Thesis Research | 2 | n/a | no |

| | | | | | | |
|--------|------|------|-----------------------------------|-----|-----|----|
| Winter | CMPS | 111 | Introduction to Operating Systems | 115 | 37 | no |
| | CMPS | 280S | Seminar Computer Systems | 10 | 60 | no |
| | CMPS | 299C | Thesis Research | 2 | n/a | no |
| Spring | CMPE | 297A | Individual Study | 1 | n/a | no |
| | CMPS | 12B | Introduction to Data Structures | 339 | 27 | no |
| | CMPS | 12M | Data Structures Laboratory | 317 | 28 | no |
| | CMPS | 280S | Seminar Computer Systems | 11 | 36 | no |

TEACHING 2017-18

| | | | | Enrolled | %Eval | Retd | Shared? |
|--------|------|------|-----------------------------------|----------|-------|------|---------|
| Summer | CMPE | 198 | Individual Study or Research | 1 | n/a | | no |
| Fall | | | Medical Leave | | | | |
| Winter | CMPE | 194F | Dangerous World | 14 | n/a | | no |
| | CMPE | 198F | Individual Study or Research | 3 | n/a | | no |
| | CMPS | 280S | Seminar Computer Systems | 7 | 43 | | no |
| | CMPS | 111 | Introduction to Operating Systems | 34 | 26 | | no |
| | CMPS | 296 | Masters Project | 1 | n/a | | no |
| | CMPS | 297A | Individual Study | 3 | n/a | | no |
| | CMPS | 297B | Individual Study | 1 | n/a | | no |
| Spring | CMPE | 236 | Understanding Cryptography | 10 | 100 | | no |
| | CMPE | 296 | Masters Project | 2 | n/a | | no |
| | CMPE | 297A | Individual Study | 4 | n/a | | no |
| | CMPE | 297B | Individual Study | 2 | n/a | | no |

TEACHING 2018-19

| | | | | Enrolled | %Eval | Retd | Shared? |
|--------|------|------|-----------------------------------|----------|-------|------|---------|
| Summer | CMPE | 198 | Individual Study or Research | 1 | n/a | | no |
| | CMPS | 299 | Thesis Research | 1 | n/a | | no |
| Fall | CMPE | 280S | Seminar Computer Systems | 8 | 50 | | no |
| | CMPE | 297A | Individual Study | 2 | n/a | | no |
| | CMPE | 297B | Individual Study | 2 | n/a | | no |
| | CMPE | 299A | Thesis Research | 1 | n/a | | no |
| | CMPS | 111 | Introduction to Operating Systems | 44 | 23 | | no |
| Winter | CMPE | 195 | Senior Thesis | 4 | n/a | | no |
| | CMPS | 198 | Individual Study or Research | 1 | n/a | | no |
| | CMPS | 297A | Individual Study | 2 | n/a | | no |
| | CMPS | 297C | Individual Study | 1 | n/a | | no |
| | CMPS | 299A | Thesis Research | 1 | n/a | | no |
| Spring | CMPS | 280S | Seminar Computer Systems | 11 | 36 | | no |
| | CMPE | 296 | Masters Project | 1 | n/a | | no |
| | CMPE | 297A | Individual Study | 1 | n/a | | no |
| | CMPE | 297B | Individual Study | 1 | n/a | | no |
| | CMPE | 299B | Thesis Research | 1 | n/a | | no |
| | CMPE | 299C | Thesis Research | 1 | n/a | | no |
| | CMPS | 111 | Introduction to Operating Systems | 154 | 23 | | no |

TEACHING 2019–2020

| | | | | Enrolled | %Eval | Retd | Shared? |
|--------|-----|------|------------------------------------|----------|-------|------|---------|
| Fall | CSE | 13S | Computer Systems and C Programming | 49 | 18 | no | |
| | CSE | 280S | Seminar Computer Systems | 11 | 27 | no | |
| Winter | CSE | 13S | Computer Systems and C Programming | 90 | 11 | no | |
| | CSE | 280S | Seminar Computer Systems | 11 | 27 | no | |
| Spring | CSE | 234 | Understanding Cryptography | 23 | 52 | no | |
| | CSE | 280S | Seminar Computer Systems | 6 | 17 | no | |

Mentoring and Advising**Advisor to Continuing Students**

| Degree Goal | Year Entered | Name |
|-------------|--------------|------------------------------|
| M.S. | 2022 | Eugene Chou |
| M.S. | 2020 | Sabrina Au |
| Ph.D. | 2020 | Kyle Fredrickson |
| Ph.D. | 2018 | Austen Barker |
| Ph.D. | 2016 | Oceane Bel |
| Ph.D. | 2015 | James Hughes |
| Ph.D. | 2010 | Michael M ^c Throw |

Postdoctoral Scholars

| Name | Dates | Relationship | Degree Year | Institution |
|-------------|-------------------------|--------------|-------------|-----------------|
| Yasu Ohara | 2011 Fall–2013 Fall | Primary | 2008 | Keio University |
| Se Jin Kwon | 2016 Spring–2017 Winter | Primary | 2012 | Ajou University |

Doctor of Philosophy

| Degree Year | Name | Relationship | Dissertation |
|-------------|---------------------|--------------|--|
| 2017 | Joel Frank | Primary | Percival: A Reliable, Long-term, Distributed Storage System Free of Fixed-key Encryption |
| 2017 | Yan Li | Primary | ASCAR: Fully Autonomous Storage Contention Management System |
| 2016 | Stephanie Jones | Primary | Techniques for Reducing Long-term Data Movement on Shingled Magnetic Recording Drives |
| 2016 | Alexander Nelson | Primary | Software Signature Derivation From Sequential Digital Forensic Analysis |
| 2016 | Christina Strong | Primary | Data Allocation Approaches for Optimizing Storage Systems |
| 2015 | Alexandra Holloway | Primary | Design of a Data-Driven Micro-Display for Situation Awareness in Bursty Environments |
| 2015 | D. J. Capelis | Primary | Integrating Security into Lower Layers after Their Design |
| 2013 | Aleatha Parker-Wood | Primary | Improving File Management through Provenance and Rich Metadata |
| 2010 | Deepavali Bhagwat | Primary | Deduplication for Large Scale Backup and Archival Storage |
| 2008 | David Pease | Primary | Storage Tank: A Storage Area Network File System |
| 2006 | Lawrence You | Primary | Efficient Archival Data Storage |
| 2005 | Bo Hong | Co-Advisor | File and Storage Systems for MEMS-Based Storage |
| 2002 | Ahmed Amer | Primary | Predictive Data Grouping using Successor Prediction |
| 2002 | Tsozen Yeh | Primary | Improving File System Performance with File Access Predictions |
| 2000 | Theodore Haining | Primary | Non-volatile Cache Management for Improving Write Response Time with Rotating Magnetic Media |
| 2000 | Benjamin Reed | Primary | Using Network Attached Storage in a Secure Network Distributed File System |
| 2000 | Randal Burns | Primary | Data Management in a Distributed File System for Storage Area Networks |
| 2000 | Thomas Kroeger | Primary | Modeling File Access Patterns to Improve Caching Performance |
| 1992 | Richard Golding | Primary | Weak-consistency Group Communication and Membership |

Doctor of Philosophy Dissertation Reading Committee

| Degree Year | Name | Relationship | Advisor | Institution |
|-------------|----------------------|-------------------|-------------------------|---------------------------|
| — | Oceane Bel | Advisor | Prof. Darrell Long | UCSC |
| — | Devashish Purandare | Member | Prof. Ethan Miller | UCSC |
| — | James Hughes | Member | Prof. Darrell Long | UCSC |
| 2019 | Judith Samson | Member | Prof. Bradley Smith | UCSC |
| 2019 | Yuanjiang Ni | Member | Prof. Ethan Miller | UCSC |
| 2019 | Sinjoni Mukhopadhyay | Advisor | Prof. Darrell Long | UCSC |
| 2019 | James Byron | Member | Prof. Ethan Miller | UCSC |
| 2019 | Daniel Bittman | Member | Prof. Ethan Miller | UCSC |
| 2015 | Rekha Pitchumani | Member | Prof. Ethan Miller | UCSC |
| 2015 | D.J. Capelis | Member | Prof. Darrell Long | UCSC |
| 2015 | Alexandra Holloway | Advisor | Prof. Darrell Long | UCSC |
| 2016 | Raja Haddad | Président du jury | Witold Litwin | Université Paris-Dauphine |
| 2015 | Rekha Pitchumani | Member | Prof. Ethan Miller | UCSC |
| 2014 | Yangwook Kang | Member | Prof. Ethan Miller | UCSC |
| 2014 | Andrej Tolič | Member | Prof. Andrej Brodnik | University of Ljubljana |
| 2013 | Hanafi Yakouben | Membre du jury | Prof. Witold Litwin | Université Paris-Dauphine |
| 2009 | Karen Glocer | Member | Prof. Manfred Warmuth | UCSC |
| 2009 | Kevin Greenan | Member | Prof. Ethan Miller | UCSC |
| 2009 | Mark Storer | Member | Prof. Ethan Miller | UCSC |
| 2007 | Timothy Bisson | Member | Prof. Scott Brandt | UCSC |
| 2007 | John Colby | Member | Prof. Geoffrey Pullum | UCSC |
| 2007 | Dean Hildebrand | Member | Prof. Peter Honeyman | University of Michigan |
| 2006 | Zachary Peterson | Member | Prof. Randal Burns | Johns Hopkins University |
| 2006 | Feng Wang | Member | Prof. Scott Brandt | UCSC |
| 2006 | Caixue Lin | Member | Prof. Scott Brandt | UCSC |
| 2005 | Reiner Kraft | Member | Prof. Raymie Stata | UCSC |
| 2005 | Qin Xin | Member | Prof. Ethan Miller | UCSC |
| 2005 | Scott Banachowski | Member | Prof. Scott Brandt | UCSC |
| 2004 | Ismail Ari | Member | Prof. Ethan Miller | UCSC |
| 2004 | Dmitrii Zagorodnov | Member | Prof. Keith Marzullo | UCSD |
| 2003 | R. Kameshwari | Member | Prof. K. Gopinath | IIS Bangalore |
| 2003 | Bradley Smith | Member | Prof. J.J. Garcia-Luna | UCSC |
| 2002 | Brian Chess | Member | Prof. F. Joel Ferguson | UCSC |
| 2002 | Jyoti Raju | Member | Prof. J.J. Garcia-Luna | UCSC |
| 1999 | Rodrigo Garcés | Member | Prof. J.J. Garcia-Luna | UCSC |
| 1999 | Clay Shields | Member | Prof. J.J. Garcia-Luna | UCSC |
| 1998 | Bruce Montague | Member | Prof. Charles M' Dowell | UCSC |
| 1996 | Shree N. Murthy | Member | Prof. J.J. Garcia-Luna | UCSC |
| 1996 | Eric Rosen | Member | Prof. Patrick Mantey | UCSC |
| 1995 | Yuxia Zhang | Member | Prof. J.J. Garcia-Luna | UCSC |
| 1993 | Daniel Edelson | Member | Prof. Ira Pohl | UCSC |
| 1993 | Max Copperman | Member | Prof. Charles M' Dowell | UCSC |

Doctor of Philosophy Qualifying Committee

| Year | Name | Relationship | Advisor | Institution |
|------|---------------|--------------|--------------------|-------------|
| 2020 | Shreyas Kumar | Member | Prof. Darrell Long | UCSC |

| | | | | |
|------|----------------------|----------------|----------------------------|--------------------------|
| 2020 | Devashish Purandare | Chair | Prof. Ethan Miller | UCSC |
| 2020 | James Hughes | Chair | Prof. Darrell Long | UCSC |
| 2018 | Judith Samson | Member | Prof. Bradley Smith | UCSC |
| 2018 | Trevor Pesout | Outside Member | Prof. Darrell Long | UCSC |
| 2018 | Yuanjing Ni | Chair | Prof. Ethan Miller | UCSC |
| 2018 | Sinjoni Mukhopadhyay | Member | Prof. Darrell Long | UCSC |
| 2018 | James Byron | Chair | Prof. Ethan Miller | UCSC |
| 2018 | Daniel Bittman | Chair | Prof. Ethan Miller | UCSC |
| 2018 | Oceane Bel | Member | Prof. Darrell Long | UCSC |
| 2014 | Preeti Gupta | Chair | Prof. Ethan Miller | UCSC |
| 2012 | Yangwook Kang | Chair | Prof. Ethan Miller | UCSC |
| 2012 | Rekha Pitchumani | Chair | Prof. Ethan Miller | UCSC |
| 2012 | Ian Adams | Chair | Prof. Ethan Miller | UCSC |
| 2011 | Avani Wildani | Chair | Prof. Ethan Miller | UCSC |
| 2008 | Neerja Bhatnagar | Chair | Prof. Ethan Miller | UCSC |
| 2008 | Kevin Greenan | Chair | Prof. Ethan Miller | UCSC |
| 2008 | Andrew Leung | Chair | Prof. Ethan Miller | UCSC |
| 2007 | Purvi Shah | Member | Prof. Jehan-François Pâris | University of Houston |
| 2007 | Mark Storer | Chair | Prof. Ethan Miller | UCSC |
| 2006 | David Essary | Member | Prof. Ahmed Amer | University of Pittsburgh |
| 2005 | Karen Glocer | Member | Prof. Manfred Warmuth | UCSC |
| 2004 | Reiner Kraft | Chair | Prof. Raymie Stata | UCSC |
| 2003 | Scott Banachowski | Chair | Prof. Scott Brandt | UCSC |
| 2003 | Qin Xin | Chair | Prof. Ethan Miller | UCSC |
| 2003 | Lawrence You | Member | Prof. Darrell Long | UCSC |
| 2003 | Feng Wang | Chair | Prof. Scott Brandt | UCSC |
| 2003 | Dmitrii Zagorodnov | Member | Prof. Keith Marzullo | UCSD |
| 2003 | Bo Hong | Member | Prof. Darrell Long | UCSC |
| 2002 | Ismail Ari | Chair | Prof. Ethan Miller | UCSC |
| 2002 | Bradley Smith | Chair | Prof. J.J. Garcia-Luna | UCSC |
| 2001 | Tsozen Yeh | Member | Prof. Darrell Long | UCSC |
| 2001 | Aman Shaikh | Member | Prof. Anujan Varma | UCSC |
| 2000 | Brian Chess | Chair | Prof. F. Joel Ferguson | UCSC |
| 2000 | Ahmed Amer | Member | Prof. Darrell Long | UCSC |
| 1999 | Srinivas Vutukury | Member | Prof. J.J. Garcia-Luna | UCSC |
| 1999 | Jyoti Raju | Member | Prof. J.J. Garcia-Luna | UCSC |
| 1998 | Marcelo Spohn | Member | Prof. J.J. Garcia-Luna | UCSC |
| 1998 | Gil Fuchs | Member | Prof. Robert Levinson | UCSC |
| 1998 | Benjamin Reed | Member | Prof. Darrell Long | UCSC |
| 1997 | Thomas Kroeger | Member | Prof. Darrell Long | UCSC |
| 1997 | Thomas Clay Shields | Member | Prof. J.J. Garcia-Luna | UCSC |
| 1997 | Steven Carter | Member | Prof. Darrell Long | UCSC |
| 1997 | Brian Levine | Member | Prof. J.J. Garcia-Luna | UCSC |
| 1997 | Brian Chess | Member | Prof. F. Joel Ferguson | UCSC |
| 1996 | Lampros Kalampoukas | Member | Prof. J.J. Garcia-Luna | UCSC |
| 1996 | Hans-Peter Dommel | Member | Prof. J.J. Garcia-Luna | UCSC |
| 1996 | Fumiaki Kamiya | Member | Prof. Allen Van Gelder | UCSC |
| 1996 | Dirk Coldewey | Member | Prof. Charles M' Dowell | UCSC |
| 1996 | Bruce Montague | Member | Prof. Charles M' Dowell | UCSC |
| 1995 | Theodore Haining | Member | Prof. Darrell Long | UCSC |
| 1995 | Shree N. Murthy | Member | Prof. J.J. Garcia-Luna | UCSC |

| | | | | |
|------|---------------------|--------|-------------------------------------|------|
| 1995 | Jochen Behrens | Member | Prof. J.J. Garcia-Luna | UCSC |
| 1995 | Dimitrios Stiliadis | Member | Prof. Anujan Varma | UCSC |
| 1995 | Chane Fullmer | Member | Prof. J.J. Garcia-Luna | UCSC |
| 1994 | Gil Fuchs | Member | Prof. Robert Levinson | UCSC |
| — | Tsozen Yeh | Member | Prof. Darrell Long | UCSC |
| — | Thomas Shields | Member | Prof. J.J. Garcia-Luna | UCSC |
| — | Steven Carter | Member | Prof. Darrell Long | UCSC |
| — | Shree Murthy | Member | Prof. J.J. Garcia-Luna | UCSC |
| — | Sage Weil | Member | Prof. Scott Brandt | UCSC |
| — | Richard Golding | Member | Prof. Darrell Long | UCSC |
| — | Randal Burns | Member | Prof. Darrell Long | UCSC |
| — | Max Copperman | Member | Prof. Charles M ^c Dowell | UCSC |
| — | Marcelo Spohn | Member | Prof. J.J. Garcia-Luna | UCSC |
| — | Lawrence You | Member | Prof. Darrell Long | UCSC |
| — | Kjell Post | Member | Prof. Allen Van Gelder | UCSC |
| — | Ignacio Solis | Member | Prof. J.J. Garcia-Luna | UCSC |
| — | Ignacio Corderi | Member | Prof. Darrell Long | UCSC |
| — | Gil Fuchs | Member | Prof. Robert Levinson | UCSC |
| — | Fumiaki Okushi | Member | Prof. Allen Van Gelder | UCSC |
| — | Eric Rosen | Member | Prof. Patrick Mantey | UCSC |
| — | Dirk Coldewey | Member | Prof. Charles M ^c Dowell | UCSC |
| — | Dimitrios Stiliadis | Member | Prof. J.J. Garcia-Luna | UCSC |
| — | David Pease | Member | Prof. Darrell Long | UCSC |
| — | Chane Fullmer | Member | Prof. J.J. Garcia-Luna | UCSC |
| — | Brian Levine | Member | Prof. J.J. Garcia-Luna | UCSC |
| — | Bo Hong | Member | Prof. Scott Brandt | UCSC |
| — | Benjamin Reed | Member | Prof. Darrell Long | UCSC |
| — | Aman Shaikh | Member | Prof. J.J. Garcia-Luna | UCSC |
| — | Ahmed Amer | Member | Prof. Darrell Long | UCSC |

Master of Science

| Degree Year | Name | Relationship | Thesis |
|-------------|------------------------------|--------------|--|
| 2015 | Ignacio Corderi | Primary | RESAR: A System for a Two-Failure Tolerant, Self-Adjusting Million Disk Storage Cluster |
| 2014 | Erik Steggall | Primary | Sleuthkit: XTAF extension |
| 2014 | Michael M ^c Throw | Primary | Extended Metadata and File System Design: Designing File Systems that Take Advantage of Rich Metadata |
| 2013 | Sonali Somyalipi | Primary | Impact of Differential Compression and Deduplication on Genomic Data Storage |
| 2012 | Akhilesh Bhargav Malavalli | Primary | Improved Measurement of Backup Reconstruction Performance for a Deduplicated System |
| 2010 | Stephanie Jones | Primary | On-line Deduplication in a Log-Structured File System for Primary Storage |
| 2008 | Rosie Wacha | Primary | Data Reliability Techniques for Specialized Storage Environments |
| 2007 | Kristal Pollack | Primary | Quota Enforcement for High-Performance Distributed Storage Systems |
| 2005 | Jeffrey Rybczynski | Primary | Active Workload Reshaping to Maximize Disk Energy Conservation |
| 2005 | Jörg Meyer | Primary | Large Scale Multi-Type Inverted List Indexing |
| 2004 | Svetlana Kagan | Primary | Using Containers for Efficient Storage of Small Files in the Deep Store Archival System |
| 2004 | Karl Brandt | Primary | Using Multiple Experts to Perform File Prediction |
| 2003 | Ian Brown | Primary | Upgrading NFS File Servers in a Live Environment |
| 2003 | Karen Glocer | Primary | The Utility of Fine-Grained Workload Characterizations |
| 2002 | Ying Lin | Primary | Power Conservation Strategies for MEMS-Based Storage Devices |
| 2002 | Zachary Peterson | Primary | Data Placement for Copy-on-Write Using Virtual Continuity |
| 2000 | Pu Yang | Primary | Modeling Probe Based Data Storage Devices |
| 2000 | A. David M ^c Nab | Primary | Extensible UNIX Access Control Lists |
| 1999 | John Colby | Primary | Error Correction for Incremental LR Parsers |
| 1998 | Tracey Sconyers | Primary | An Examination of Power Consumption in Wireless Modems |
| 1997 | Randal Burns | Primary | Differential Compression: A Generalized Solution for Binary Files |
| 1996 | Thomas Kroeger | Primary | Predicting File System Actions From Reference Patterns |
| 1994 | David Schreiber | Primary | A Code Generator for the PowerPC 601 |
| 1994 | Chane Fullmer | Primary | Implementation of Adaptive Flow Control Mechanism to the Swift Redundant Distributed File Architecture |
| 1993 | Michelle Abram | Primary | Transparent Remote Procedure Calls |
| 1993 | Kulumani B. Sriram | Primary | A Study of the Reliability of Hosts on the Internet |
| 1993 | Cheng Tang | Primary | A Transport Mechanism for Supporting Multimedia Traffic in ATM Networks |
| 1992 | William Osser | Primary | Automatic Process Selection for Load Balancing |
| 1992 | Carol Osterbrock | Primary | A Transport Level Protocol for Guaranteed Performance in a Local Area Network |
| 1991 | Richard Golding | Primary | Accessing Replicated Data in a Large Scale Distributed System |

Master of Science Thesis Reading Committee

| Year | Name | Relationship | Advisor |
|------|-----------------------|--------------|------------------------|
| 2018 | Isaak Cherdak | Chair | Prof. Ethan Miller |
| 2018 | Matthew Bryson | Member | Prof. Ethan Miller |
| 2018 | Oceane Bel | Chair | Prof. Darrell Long |
| 2018 | Austen Barker | Chair | Prof. Darrell Long |
| 2017 | Preeti Gupta | Chair | Prof. Darrell Long |
| 2015 | Xiaoyuan Lu | Member | Prof. Darrell Long |
| 2015 | Ignacio Corderi | Chair | Prof. Darrell Long |
| 2011 | Nathan Edel | Member | Prof. Ethan Miller |
| 2010 | Kiren Jin | Member | Prof. Ethan Miller |
| 2004 | Narayan Brooks | Member | Prof. Suresh Lodha |
| 2003 | David Pease | Member | Prof. Richard Hughey |
| 2002 | Reiner Kraft | Member | Prof. Raymie Stata |
| 2002 | Feng Wang | Member | Prof. Scott Brandt |
| 2002 | Alicia Szczurowska | Member | Prof. Scott Brandt |
| 2000 | Paul Caamano | Member | Prof. Charles McDowell |
| 1999 | Manosiz Bhattacharrya | Member | Prof. Charles McDowell |
| 1998 | Christina Parsa | Member | Prof. J.J. Garcia-Luna |
| 1998 | Jyoti Raju | Member | Prof. J.J. Garcia-Luna |
| 1997 | Bradley Smith | Member | Prof. J.J. Garcia-Luna |
| 1997 | Michael Allen | Member | Prof. Charles McDowell |
| 1997 | Bruce Sherrod | Member | Prof. David Helmbold |
| 1996 | Brian Levine | Member | Prof. J.J. Garcia-Luna |
| 1996 | Thomas Clay Shields | Member | Prof. J.J. Garcia-Luna |
| 1996 | Catherine Wilson | Member | Prof. Suresh Lodha |
| 1995 | Brian Chess | Member | Prof. F. Joel Ferguson |
| 1994 | Shree N. Murthy | Member | Prof. J.J. Garcia-Luna |
| 1993 | Theodore Haining | Member | Prof. Charles McDowell |
| 1993 | Rock Pfotenhauer | Member | Prof. Ira Pohl |
| 1993 | Richard Snyder | Member | Prof. Robert Levinson |
| 1991 | Matthew Breaden | Member | Prof. Tracy Larrabee |
| 1990 | Max Copperman | Member | Prof. Charles McDowell |
| 1990 | Daniel Edelson | Member | Prof. Ira Pohl |
| 1990 | Frank Jas | Member | Prof. Karl Schimpf |
| 1989 | James Kerr | Member | Prof. Allen Van Gelder |

Bachelor of Science

| Degree Year | Name | Relationship | Thesis |
|-------------|--------------------|--------------|---|
| 2019 | Yash Gupta | Primary | Artifice: A Deniable Steganographic File System |
| 2016 | Daniel Bittman | Primary | Designing a Wait-free MPSC Queue |
| 2011 | Sulimon Sattari | Primary | A Cross-Disciplinary Data Sharing and Querying Platform for Earth Science Data |
| 2001 | Christopher Benson | Primary | Peer-to-Peer File System using Weak Consistency Replication |
| 1994 | Sean Gilligan | Primary | MacMet: A Macintosh Program to Display Real-Time and Historical Data from Meteorological Stations |
| 1992 | Nitin Ganatra | Primary | Census: Collecting Host Information on a Wide Area Network |
| 1991 | Aaron Emigh | Primary | The Swift Architecture: Anatomy of a Prototype |
| 1989 | Leland Wallace | Primary | Font Extensions to the X-Fig Graphics Program |